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ABSTRACT

This report is a compilation of critiques of research studies in music education. The project was designed to collect objective evaluations of the results of research, to show how these results can be applied in the classroom to contribute to the improvement of music teaching and learning, and to facilitate dissemination of this information. Identification is made of those research studies in music education which are most useful in terms of quality of research, relevance to past and future research, and pertinency to the music teaching situation. Experts within and outside of the field of music education provide critical reviews of such research, a) showing the strengths and weaknesses of the study through analysis, interpretation, and evaluation; b) indicating the implications for other researchers, the need for replication in same and altered situations, the needs for changes in design and/or treatment of data; and c) where appropriate offering suggestions for simplifying the design so the study might be replicated in the classroom as action research. (Author/SHM)

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A CRITIQUE OF RESEARCH STUDIES IN MUSIC EDUCATION

USOE Research Project 5-9-230306, Arts and Humanities Branch

U. S. Office of Education

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May 1972

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FINAL REPORT

USOE Research Project 5-9-230306, Arts and Humanities Branch

A CRITIQUE OF RESEARCH STUDIES IN MUSIC EDUCATION

Richard J. Colwell
University of Illinois

The introduction of this final report is in many ways similar to that written nearly three years ago at the completion of USOE Research Project 6-10-245. This, of course, is so for several reasons. The period 1969-1972 was basically an extension of the original grant and, perhaps surprisingly, despite the pressures on education, the state of the profession and its concerns changed little during this period. Two situations seem to exist with respect to research in music education. Most of it is steadily improving yet a few institutions apparently are minimizing research requirements for the doctorate and these dissertations are poor. The topics remain similar and any survey of research completed during the period 1967-72 would not indicate the presence of major influences upon the music education curriculum.

The primary concern of this project continued to be the obtainment of high-quality critiques of research studies in music education. By critique is meant not only a critical estimate but also a meaningful summary of the implications each piece of research holds for the music educator. Until the present time, music education research has made little noticeable impact upon philosophy, methods, materials, or objectives of public school music; research has been, with rare exceptions, completely ignored by the practicing music teacher. Two of the reasons may be the lack of dissemination of research studies (the inaccessability of microfilm information to teachers); and second, the inability of the average music educator to evaluate, criticize, and utilize the research with which he is familiar.

Research in music education continues to vary in quality, some of it of little value because it is done without adequate knowledge of design, statistical and sampling procedures, and evaluative techniques. In many cases this poor research is not only of little value but actually a negative force to the profession because of the unwarranted assumptions, interpretations, and conclusions. On the other hand, there is much good research but it often remains unheeded and unused perhaps because it is couched in the language of dissertations and, therefore, inaccessible to the uninitiated. Through this study a major effort has been put forth by the doctoral advisers of the country and a claim can confidently be made that the project was worthwhile. Cooperation has been nothing short of phenomenal and this project is really a cooperative effort by the doctoral degree granting institutions of the country rather than that of any single investigator or institution.

Public school music continues to be criticized, both by the music teacher and the professional musician. Much of this criticism stems from the fact that teaching procedures and materials used in the classroom have been adopted on purely subjective bases with no attempt to discover what actual results their use might produce in terms of musical learnings. Other reasons are the standards and problems when one teaches all the children in a school.

Critiques which provide an objective evaluation of the results of research, and which show how these results can be applied in the classroom can contribute greatly to the improvement of music teaching and learning. These critiques also can strengthen research in music education by pointing out weaknesses in present studies and suggestions for improving the accuracy and validity of future studies. With this in mind, a group of music educators interested in research met in Minneapolis in 1963 to form a Council for Research in Music Education, members of the Council being those individuals undertaking critiques of research. As this was the first effort of its kind, a few studies were critiqued and dissemination made to 500 persons as a pilot project to determine its feasibility. The enthusiastic response from libraries and the profession encouraged continuation. The need was evident; a solution was to attract the best qualified reviewers to the task and to facilitate their work in every possible way.

After nearly three years of publication, outside support was sought for the project in order to provide xerox copies of research for the reviewers.

The specific objectives of this project were as follows.

1. To identify those research studies in music education which are the most useful in terms of quality of research, relevance to past and future research, and pertinency for the music teaching situation.

2. To procure critical reviews of such research, (a) showing the strengths and weaknesses of the study through analysis, interpretation, and evaluation; (b) indicating the implications for other researchers, the need for replication in same and altered situations, the needs for changes in design and/or treatment of data; and (c) where appropriate offering suggestions for simplifying the design so the study might be replicated in the classroom as action research.

3. To state in unsophisticated terms the implications of the study for use in the public school or college music program, its application to philosophy, teaching techniques, objectives, materials, media, curriculum, and evaluative tools when these might be relevant.

4. To disseminate information about major research projects currently underway as well as completed work in other fields having implications for music education. This project has greatly aided the dissemination efforts of the Office of Education.

5. To enlist the help of experts within and outside the field of music education to review works in their special area of interest and competence.

6. To enlist the help of experts within and outside the field of music education to make suggestions regarding needed research, appropriate design, evaluative techniques, ideas needing exploration, categorization, terminology, and similar matters, assisting and promoting the area of research in music education.

7. To improve both teaching and research in music education through the availability of these critiques and scholarly papers on a large scale.

8. To disseminate detailed information about major research proposals underwritten by the United States Office of Education and other major funding organizations in the field.

The project's success can be partially determined from the following data.

In an effort to identify significant studies for review, the University of Illinois purchased microfilm copies of 1358 doctoral dissertations in music education, nearly all of them written since 1960. These were read by the principal investigator or a graduate assistant and informally identified as to worth. Four hundred and twenty dissertations were purchased in xerox edition for possible review. Doctoral advisers at each institution have also aided in identifying studies worthy of review.

Bi-monthly a list of available dissertations for review has been submitted to all doctoral advisers. From this they have selected likely titles for review. This process has served as a further screening measure as dissertations are sometimes returned as being of too poor quality to be reviewed for publication. A second screening process iss use of the staff at Illinois to read all theses before being sent out for review.

An active advisory committee has been established which consists of: Frederick Fennell, Music Department, University of Miami; Edwin Gordon, Music Education Department, State University of Iowa; Rose Marie Grentzer, Music Department, University of Maryland; Charles R. Hoffer, School of Music, Indiana University; Robert John, Music Department, University of Georgia; William L. Johnston, past Music Supervisor, Office of Superintendent of Public Instruction, Springfield, Illinois; Frank Laurie, Music Supervisor, Office of Superintendent of Public Instruction, Springfield, Illinois; George Dyme, Music Department, University of California, Berkeley; Charles Leonhard, School of Music, University of Illinois; Gary M. Martin, Music Department, University oo Oregon; Robert Petzold, College of Education, University of Wisconsin; Edward Rainbow, Music Education Department, North Texas State University; Bennett Reimer, Michigan State University; Robert Sidnell, Music Department, Michigan State University.

The type of critique has varied just as the studies themselves vary. Some studies could not be translated into meaningful terms for the classroom teacher, either because they had no implications, the design was such that practical implications were not warranted at this stage, or because several stages would be necessary to effectively communicate between the researcher and the teacher. In the latter instance, at least the first stage has been bridged. There can be no argument but what the reviewers have been among the most knowledgeable leaders of the profession and that the objective of providing a meaningful review has been accomplished within reasonable expectations. Recently steps have been taken to suggest common practices in certain reviews.

Dissemination has been equally successful. This takes the form of a publication entitled Bulletin for the Council for Research in Music Education of which 27 issues have been published since 1965. This publication is in constant demand by libraries, with more than 1,000 libraries presently requesting it. Some issues have been reprinted four times. Researchers appear to be using the Bulletin as one of the important sources in the profession, and recently requests for it have come as a result of recommendations of evaluation teams of the National Association of Schools of Music. Recent music education texts printed in Great Britain and Australia have cited the Bulletin; it appears in papers read at the International Society for Music Education with 165 foreign music educators' names on the mailing list. A real effort has been made to focus the dissemination activities; several times in the past years recipients have been asked to write to the editorial office if they desired to have their name remain on the mailing list and those failing to do so have been deleted. Failure to advise the editor's office of a change of address is also cause for deletion. Dissemination activites reamin at three times the anticipated level.

Complete cooperation has been obtained from recipients of United States Office of Education research grants in music education to disseminate reports of their studies through the Bulletin and 59 articles have been published. These reports are omitted here in order to focus on the actual critiqueing which has been accomplished. These reports are available from the project office, and all Bulletins are available from University Microfilms of Ann Arbor, Michigan.

There is no ready evidence that the Bulletin has improved teaching and research in music education although doctoral advisers seem to believe that its impact is being felt. Reviewers have criticized not only the scholarship but often the careless manner of reporting doctoral work. The hurry to meet deadlines by doctoral students rather than to polish a piece of research is very much in evidence at all levels of music education research.

There appears to be an increasing need for demand for quality critiques in music education as the number of dissertations increases. An additional 8 critiques will be disseminated in the next two months with 120 presently in progress by music education scholars throughout the country.

Alford, Delton L. Emergence and Development of Music Responses in Preschool Twins and Singletons: A Comparative Study. Florida State University, Ph.D., 1966. Order No. 66-5439.
Reviewed by Marilyn P. Zimmerman

The current interest in early child development has resulted in research in many areas of this fascinating period of human growth and development. A fine contribution to knowledge concerning early music responses is the doctoral study of Delton L. Alfrod. In 1960 a multi-disciplinary longitudinal research project at the Florida State University Institute of Human Development was launched "to study intensively not less than twenty pairs of preschool-age twins and an equal number of non-twins matched by and sex." Initial research at the Institute in the area of early music responses was conducted by Simons and Witherspoon. The research of Alford was affiliated with the original twin study of the Institute and was a continuation of Simons' initial music response study.

The all-over purpose of Alford's study was to "determine the emergence and development of music responses of preschool twins and singletons and to make appropriate comparisons of differences in twins' and singletons' responses at various age levels." Specifically, the research was designed "to study intensively not less than twelve pairs of same-sex twins matched in age and sex with an equal number of singletons." All subjects were observed and tested over a period of two successive years, with two observations occurring each year at an interval of one month. The research procedure was designed to test the emergence and development of spontaneous and evoked music responses and to obtain data concerning the vocal range and singing ability of preschool children.

A fairly comprehensive review of research literature in the related areas of twin research, music research with young children, and tests and methodology used in music research with young children was included. Among the subheadings included in the third area were tests of musicality, systems of scoring, and types of observational techniques.

In order to add significance to the developmental and comparative aspects of the study, Alford employed those subjects who had participated in Simons' study. Two major observational periods of two months duration each were scheduled at intervals of one and two years after termination of Simons' research. Twice each year at the interval of one month, each subject's responses to selected musical stimuli were observed in the familiar surroundings of his home. A graduate student assisted in the observation of all twins.

The following types of musical responses and activities were observed:

I. Observation of gross responses to musical stimuli, including examples of piano, orchestral, and choral music.

II. Observation of imitative responses to
  A. Regular pulsation perceived visually and aurally (simultaneously)
  B. Brief rhythmic patterns
  C. Brief pitch patterns
  D. Brief musical phrases
  E. Brief songs unaccompanied
III. Observation of free-play activities
IV. Actual song performance of subjects

The presentation of Parts I, II, and III was systematically rotated each observation in order to minimize the children's familiarity and/or boredom with the routine.

Musical examples used in the observation of gross responses to musical stimuli (Part I of the observational procedure) included piano, orchestral, and choral music. Four recorded examples of piano music were chosen, each of which emphasized a specific musical element. These elements included melody, harmony, rhythm, and dissonance. Four recorded examples of orchestral music were chosen, two of which represented music that has a stimulative nature, and two of which represented music that has a sedative nature. The choral music also was chosen to represent the "two general classifications of emotional content in music." These recorded examples were as follows: (1) mixed voices, stimulative, (2) mixed voices, sedative, (3) women's voices, stimulative, and (4) men's voices sedative.

Responses of the subjects to Part I were carefully observed and scored according to the following numerical system:

A. Facial expression
  Score
    0 - abstracted: no change of expression
    1 - neutral: expression indicates awareness of stimulus, but not attention or emotion
    2 - attentive: assumes attentive expression
    3 - animated: expression reflects emotion (pleasure or displeasure)
    4 - participation: vocalizes (use plus sign if synchronizes with stimulus)

B. Bodily movement
  Score
    0 - abstracted: no change of bodily activity
    1 - neutral: temporary cessation of motion; looks towards source of sound
    2 - attentive: prolonged cessation of motion; moves toward source of sound

3 - animated: increased bodily activity
4 - participation: "dances," taps foot, or otherwise responds bodily (use plus sign if movement synchronizes with stimulus)

Imitative responses to Part II of the observational procedure were scored according to the following numerical system:

Imitative responses
Score
0 - no response
1 - overt response: pattern is unlike stimulus
2 - overt response: pattern is similar to stimulus
3 - overt response: pattern closely approximates stimulus
4 - overt response: pattern is identical or practically identical to stimulus

(A letter prefix of P or V with each number score except zero indicated whether the imitation was physical or vocal, or both)

For Part III of the study, observation and notation of spontaneous freeplay musical activities, several small musical toys were provided and the children were encouraged to play with them. Both rhythmic and melodic activities as expressed "either vocally or physically" were recorded by the observers.

Part IV, actual song performance, had not been used in Simons' research. Alford reserved this final portion of the observational procedure for the conclusion of the second observation each year. The following scoring system was devised by Alford for Part IV:

Musicality of recorded songs
Score
0 - non-musical performance: rhythmic and melodic patterns irregular and unorganized when perceived
1 - monotoning: melodic design unstructured, but demonstration of rhythmic patterns, regularity of meter
2 - chanting: rhythmic design coupled with small variations of melodic pitch design, range of tones limited, tempo and meter somewhat constant
3 - speech-song: practically equally demonstrated organized patterns of rhythmic-melodic design and variation with meter and tempo clearly discernible

4 - acceptable singing: blending and performance of pitch design, rhythmic design, expression, tempo, etc., however, contains mistakes and temporary lapses.
5 - advanced singing: artistic performance of pitch, rhythm, meter, tempo, phrasing, and accent. Singing consistent throughout

A pilot study to train a research assistant and to measure the reliability of the observers' scores was conducted immediately before the initiation of the main study.

Data collected in the main study were subjected to the same basic statistical procedures as in the Simons' research. Scores were categorized according to frequency of response, mean frequency, degree of response, and mean degree of response. Each subject received a single aggregate score, reflecting his or her total response to the musical stimuli for each year of the observation. Non-parametric statistical procedures using the ranking method were employed in the analysis of data. "The .05 level of significance was used to determine the level at which the null hypotheses would be rejected" . . . "The Wilcoxen matched-pairs signed-ranks test was used to determine the statistical significance of inter-pair differences."

Several important findings based on the analysis of data are as follows:

1. All subjects exhibited response to music throughout the entire period of observation. Gross responses to the piano, orchestral, and choral examples occurred more frequently than did imitative responses to the brief monodic stimuli of Part II.

2. All twins and non-twins included in the investigation exhibited some response to music.

3. Responses to music were generally greater in older twins and singletons than responses of younger twins and singletons.

4. Twins and singletons responded with equal frequency to piano, orchestral, and choral stimuli.

5. Results of responses to imitative stimuli varied according to type of stimuli.

6. Frequency and degree of imitative responses to music stimuli increase in twins and singletons at yearly intervals.

7. Age level does influence the emergence and development of music responses.

8. Results of spontaneous activities varied according to the type of activity.

9. Older twins and singletons performed more songs than did younger subjects.

Although the sample was not sufficiently large to indicate developmental norms, it did indicate the music responses that emerge and develop during the preschool years.

COMMENTS

More continuation and/or replication studies such as the one by Alford are necessary before a definitive body of knowledge concerning the emergence of early music responses in children can exist. With the interest and emphasis of today's educators focused upon early childhood education such studies would seem to be particularly timely.

Every music educator could probably supply a different set of choices of musical examples for Part I. The choice of women's voices for stimulative music and men's voices for sedative music seems to add just one more variable that could have been controlled by using either men's or women's voices for both classifications.

A lack of clarity in reporting comparisons of responses to various types of imitative stimuli, pp. 152-153, seems to include "metronome" as a musical element. A better definition of the stimuli is needed in this section even though the examples were presented earlier in the study. The terms "4/4 rhythm" and "3/4 rhythm" are used instead of the correct "4/4 meter" and "3/4 meter." This is hardly an error that should be made at the culmination of graduate study in music education. In addition, several grammatical errors, including misspelled words and lack of subject-verb agreement, detract from an otherwise very commendable and very useful report of research.

Bailey, Ben E. The Developm ent and Validation of a Test of Listening Skill. Northwestern University, Ph.D., 1967.
Order No. 67-15,186.
Reviewed by Robert Glidden

Ben Bailey has undertaken an interesting and worthwhile task. College music appreciation courses for the general student are prevalent; of the 116 respondents to Dr. Bailey's survey of four-year coeducational institutions accredited by the Southern Association of Schools and Colleges, 110 reported listening courses for nonmusic majors. And while tests of musical achievement are numerous, there exists no published test of skill in listening. Authors of textbooks designed for listening courses and other writers on the subject seem to be in general agreement that such courses should assume an analytical approach to music, that students should become aurally aware of musical structure and of the elements that formulate it, and that emphasis should be placed on music itself rather than on extra-musical details. There is, however, a dearth of research on the measurement of achievement in listening, thus making this study of considerable interest to the profession and, in particular, to those engaged in the teaching of listening courses.

Bailey's test in listening skill was designed to "assess the ability of the general college student or nonmusic major to aurally identify musical elements, compositional procedures, and stylistic traits used in musical excerpts." The development of the test content was begun by identifying eight broad areas of listening skill, based upon a review of textbooks written for college listening courses. The next step was the listing of twenty-eight specific listening skills. Both lists were included in a questionnaire which was submitted to a group of teachers of college listening courses and to an evaluative panel of authorities in the field.[1] The teachers and panelists were asked to indicate, by percentage, their feelings as to the degree of importance of each of the eight broad areas of listening skill, and to rate (very important, important, no important, should not be included) each of the twenty-eight specific skills according to its appropriateness for the test. Based upon the medians of the percentages assisgned, there was close agreement (product-moment correlation of .935) between the teachers and panelists as to the relative importance of each of the eight broad areas to be tested. In analyzing the teachers' and panelists' combined ratings of the appropriateness of each of the twenty-eight specific skills, numerical values were assigned and the chi-square one-sample test was applied to determine the significance of difference among ratings. The specific listening skills accepted were those for which "very important" and "important" ratings were significantly greater (at the .01 level of confidence) than "not important" or "should not be included" ratings. All but two of the twenty-eight specific skills were accepted on this basis. Since the test items were to be in multiple-choice form, several specific skills were eliminated from consideration for the test outline because they were deemed too difficult to cast into that form. The following test content, then, resulted from a review of textbooks and from the opinions of twenty-two teachers and eight authorities in the field.

Table 1

1.	**Tonality** - relationships existing among the tonal materials of music, harmonic relationships, key systems	10%
2.	**Melody** - contour and direction of melody	10%
3.	**Rhythm and Meter** - metrical organization, rhythm, and devices which affect them	10%
4.	**Texture** - vertical and horizontal relationships, to include homophony, polyphony, monophony, and heterophony	10%
5.	**Media of Performance** - instruments and voices, bodies from which musical sounds originate and combinations of them	10%
6.	**Expressive Devices** - dynamics, touch, tempo, and miscellaneous procedures	10%
7.	**Structure** - principles of contrast and similarity, selected structural devices, short polyphonic and homophonic procedures	15%
8.	**Style** - a summation of those characteristics which enable the listener to associate musical excerpts with certain composers, groups of people, countries, historical periods, and musical types	25%

In preparing the first trial form of his test Dr. Bailey prepared a pool of written test items according to guidelines from several standard sources and with the counsel of colleagues and advisers. The test items, without music, were evaluated by a group of twenty-five persons (the evaluative panel and various college music faculty members), revised and added to, then evaluated again. The musical stimuli were recorded, some from discs, some from piano performance, but no evaluation was made of the appropriateness of musical examples to the written items, of the accuracy or musicality of the piano performance, or of the fidelity of tape-recorded sound. In order to determine the clarity of the test directions and the practicability of the general administrative procedure, a fourteen-item pilot test was recorded and administered to two separate groups of college students (both majors and nonmajors); this facet of the test was determined to be satisfactory. Trial Form A consisted of 116 items, requiring 100 minutes administration time.

After encountering difficulty in finding subjects the investigator had to evaluate Trial Form A on the basis of eighty scores for the first fifty-two items. Teachers were reluctant to relinquish two fifty-minute class sessions for the administration of the test, and, in the two schools where the test was given, unforeseen circumstances prevented the administration of more than fifty-two items. Only fourteen of these items were found to be sufficiently discriminating (.35 or more, although not reported in correlation coefficient terms). Trial Form B comprised these fourteen items, the "unused" items from Trial Form A, and a few new items, added to bring the total to 100. The administration time of Form B was reduced to less than one hour, mostly by reducing the time between items.

Trial Form B of the Listening Test was sent, with an accompanying form to obtain data relative to subjects' musical training and experience, to teachers in five colleges who had agreed to administer it. Only two of the teachers carried the project through to completion, however, so that analysis of Form B was based upon 106 cases from two colleges. The subjects were all nonmusic majors, from all college class levels. They achieved a mean of 41.42 for the 100-item test, with a median of 41 and standard deviation of 8.83. The mean item difficulty was 39 percent and forty-seven of the items were discriminating at .30 or more. The investigator used an analysis-of-variance technique to estimate reliability, which he found tobe .75 with a standard error of measurement of 4.41. The correlation between subjects' scores on the test and their musical experience (number of years' training, credits earned in music courses, and time spent in musical ensembles) was .392.

Before selecting items for the Final Form of the Listening Test all items were categorized into the topic areas of the test content outline. Items were then selected within each topic, beginning with those nearest the 50 percent level of difficulty and with the highest discrimination. Fifty-six of the sixty items in the Final Form were selected in this manner (although fourteen of those discriminated at less than .20). Items dealing with rhythm and meter had been particularly troublesome in the administration of Trial Form B--only two items in this category had shown positive discrimination. Four rhythm and meter items were rewritten to provide a total of six items (the specified 10 percent) in this category. The position of the options for each item was determined by drawing from a deck of cards. The items were numbered in order of difficulty with the exception of the four new items on rhythm and meter, which were placed at the end of the test.

The Final Form of the Listening Test was administered to 769 students in fourteen colleges in eight Southern states. The students were distributed among the four undergraduate classes and had a variety of musical experience. For the sixty-item test the mean score achieved was 20.09, with a standard deviation of 7.78 and a standard error of the mean of .356. Scores, for practical purposes, were normally distributed (skewness index of -.098). An item analysis performed on 100 answer sheets revealed a mean item difficulty of 50 percent and a mean discrimination index of .44. An estimate of reliability was obtained by an analysis of variance (on the same 100 papers); the reliability coefficient was a respectable .867, with a standard error of measurement of 2.83.

In determining the validity of the test the investigator followed the theory that listening skill, being learned, is an intellectual construct, and that there should therefore be: (1) a significant difference in skill demonstrated according to the amount of training, (2) a significant relationship between listening skill and musical experience among nonmusic majors, and (3) a closer relationship between listening skill and intelligence than between listening skill and musical aptitude or ability to associate a musical stimulus with its representation in musical notation. Null hypotheses were formulated and in testing them it was found that:

a. there was no significant difference between mean scores of graduate and undergraduate music majors.

b. there was a significant difference (at the .01 level of confidence) between mean scores of graduate music students and undergraduate nonmusic majors, and between undergraduate music majors and undergraduate nonmajors.

c. there was a significant relationship (product-moment correlation of .767, significant at the .01 level) between listening skill and musical experience among nonmusic majors.

d. the test could detect growth in achievement after instruction. Eighty-three undergraduate nonmusic majors were pre- and posttested and the mean gain after a one-semester course in listening was 4.95 points, significant at the .01 level of confidence.

e. scores on the listening test had a stronger relationship to scores on an intelligence test than to scores on a musical aptitude test or a test requiring the association

> of a musical stimulus with its notational pattern. Intelligence was measured by the Henman-Nelson Test of Mental Ability: the music tests employed were the Drake Musical Aptitude Test, the Aliferis Music Achievement Test, and the Farnum Music Notation Test. Listening test scores had the highest correlation, .949, with the Verbal score for the Henman-Nelson Test of Mental Ability, although the highest total test correlation, .890, was with the Aliferis test. The high correlation with the verbal score on the mental ability test is not surprising, particularly since success on the listening test is largely dependent upon knowledge of terminology.

In further evaluating the test the investigator invited comments from teachers who administered the final form and from a panel of six experts (five of whom had served on the original evaluative panel). Comments were varied, but most felt that the test accomplished its stated purpose. There was criticism of two particular items, and some of the teachers felt that there could be some confusion over terminology in the test. One of the panelists was in doubt as to the value of such a test. There was also some criticism of the quality of the tape, but the tenor of the remarks about the construct and organization of the test was favorable and the teachers felt that the test was usable.

An ogive based upon percentiles was constructed to provide norms for use in interpreting results of the listening test. The norms represent the achievement of college nonmusic majors after one term of instruction in listening.

Critique

Dr. Bailey's thorough approach to the development of his listening test is to be admired. The content validity of such an instrument is probably the area of greatest concern to potential users and this is the factor that received the investigator's most careful attention. The construct validity of the test was also convincingly established and the analysis-of-variance reliability coefficient of .867 is impressive, particularly for a test of this type. (A split-half reliability coefficient could easily have been determined with the data collected in the study and one would be curious to learn it, if only because it might have provided a more familiar reference for music educators.)

The reporting of the development of test items through Trial Forms "A" and "B" rather belies the actual situation, since only fourteen items actually underwent double analysis before preparation of the final form. It is regrettable that teachers are as reluctant to participate in experiments as Dr. Bailey found them to be, but it must also be recognized that he may have been unrealistic in expecting them to devote two complete fifty-minute class sessions to the project. He might have had better cooperation and better results if he had developed two "A" forms, submitted them to different sets of schools, then drawn the best items from each for Trial Form B. This procedure would have provided double opportunity to examine and revise items with low discrimination indices in the preparation of the final form of the test.

Unfortunately, the final product of this study is seriously marred by the quality of the recorded musical stimuli. Most objectionable is the musicality displayed in the piano excerpts. In at least one-fourth of the items the piano performance is offensive to musically sensitive ears, and in some cases it would seem to seriously hamper the effectiveness of the items. In one item the subject is asked to determine whether the excerpt might be a polonaise, a sarabande, a gigue, or an allemande. The correct response is "sarabande," but the performance is not at all characteristic of the musical style associated with that dance form. The analysis of that item showed a difficulty level of 28 percent with a discrimination index of .22. In another item of the same type the options are minuet, bolero, barcarolle, or none of these. "Barcarolle" is the correct response, but the style of performance is such that the difficulty level of the item was 2 percent with no discrimination. The piano used for recording stimuli was not in tune, and for a number of the excerpts the gain level of the recorder was set too high, resulting in excessive distortion. This is particularly bothersome in items that require discrimination of dynamics. The fidelity of the tape is generally poor--many of the excerpts that were dubbed from disc recordings sound as if the records were much-used 78s, scratchy and fuzzy in quality.

A further objection to the musical stimuli for the test is that a few items which require the subject to identify a musical style by composer are accompanied by excerpts that are less than typical of the composer represented in the correct response. To distinguish the music of Ravel from that of Handel, Monteverdi, or Palestrina would seem to be a reasonable request of students who have had a course in listening, but the Ravel excerpt presented yielded only a 13 percent correct response and a discrimination of .08. And while it would require more musical sophistication to distinguish the music of Bach from that of Palestrina, Mozart, or Beethoven, the Bach excerpt recorded for that item elicited a correct response of only 7 percent with no discrimination. Had the recorded tape of musical stimuli for the test been subjected to the same scrutiny as the written items many of these problems might have been resolved.

A listening test of this type is a "timed" test of the most stringent nature. A timed written test imposes a limit for a group of items, thereby allowing some opportunity for the subject to reread problematical items or to re-examine some of his responses. The recorded listening test, however, imposes a time limit for each item. It would seem, therefore, that in a recorded test care should be taken to control the amount of time between items in order to help the subject establish a routine in pacing himself. The time in this test, from the end of one stimulus to the announcement for the next, varies from two seconds to thirty-one seconds; in the latter case fifteen seconds more elapses before the music begins. Brief excerpts might require more reading and thinking time between than longer ones, but some of the shorter excerpts in this test are followed by the briefest silences. The reliability of the test might have been enhanced with attention to this easily controlled detail.

Dr. Bailey's study includes a concise review of music tests and theories of test construction and a good bibliography. The deliberate and thorough development of content for the test represents a significant contribution, and a more musically performed and more carefully recorded tape would result in a highly satisfactory instrument for the measurement of listening skills.

Baker, Eva Lee. The Differential Effect of Behavioral and Nonbehavioral Objectives Given to Teachers on the Achievement of Their Students. University of California at Los Angeles, Ed.D., 1967. Order No. 68-7451.
Reviewed by Marvin Greenberg

A bandwagon devoted to behavioral objectives is making its way on the educational scene. Adherents of behavioral objectives claim that stating educational goals in behavioral terms is a major breakthrough in curriculum development and instruction. Critics of the approach see behavioral objectives as just another curriculum fad which will disappear in due time. Organizations such as the Music Educators National Conference and the Society for Research in Music Education have apparently endorsed the approach suggested by behavioral objectives in recent publications, conferences, and research meetings. As music educators, we need to acquaint ourselves with the meaning of behavioral objectives and ascertain whether the approach has any validity for music curriculum and instruction. The Baker study should be read by all music educators, since it provides an excellent overview and discussion of behavioral objectives and analyzes both the values and problems in using the approach.

Behavioral objectives are a means of stating both long-term and day-to-day goals of school experiences. They are stated in a form that requires a specification of what the students are to do, the conditions under which the behavior is to take place, and how such behavior is to be evaluated. The approach implies having the students move through a sequence of learning which culminates in their achievement of the major generalizations within a particular field of knowledge. The behavioral objectives approach appears to be a logical outgrowth of ideas such as cyclical learning, structure of the discipline, concepts and generalizations, and programed instruction.

THE STUDY

Purposes

The study aimed to gather data on the learning produced when behavioral and nonbehavioral objectives are used. The purpose of the investigation was to answer the question: How can the goals of instruction be described so that the maximum effect takes place in the student? The specific research hypotheses were:

1. Pupil achievement (on those items which measure the behavioral objectives and transfer behaviors) produced by teachers given behavioral objectives will exceed pupil achievement of teachers given nonbehavioral objectives.

2. Teachers given behavioral objectives will indicate a more favorable response to questions regarding the usefulness of the objectives and resource materials by receiving higher scores on a self-report questionnaire than teachers given nonbehavioral objectives.

Review of the Literature

Chapter II, Review of the Literature, presents the main arguments for and against the use of behavioral objectives, as stated by authorities in curriculum development and evaluation. Some of the alleged values of behavioral objectives are that they: (1) help the teacher to plan instruction efficiently and select activities for his students which should facilitate their learning, (2) provide a way for the teacher to evaluate the effectiveness of his teaching, (3) are useful in guiding the quality of the goals themselves, (4) clarify for the teacher what he is trying to accomplish, (5) help the teacher to take broad content and break it down into manageable, meaningful pieces which follow a definite sequence, and (6) facilitate teacher training by helping teachers plan particular strategies for guiding particular pupils to demonstrate particular objectives.

Arguments against the use of behavioral objectives, as summarized by Baker, include: (1) certain subject fields may be more appropriate for behavioral objectives than others, (2) prespecification of student behaviors in certain activities may be neither possible nor desirable, (3) we cannot predict with total accuracy all outcomes of any learning sequence, (4) they force both teachers and students into inflexible molds by constraining creative instincts and limiting the teacher, (5) long-term changes in attitudes and feelings in the learner are not measurable immediately and often cannot be measured by testing, (6) social interaction as a goal of education is often ignored, and (7) skills tend to be overemphasized, since the behavioral objective approach values those aspects of content that can most easily be put in behavioral terms.

After summarizing the rather limited literature on behavioral objectives, and either supporting or refuting each argument in turn, the investigator concludes that "behavioral objectives may have some utility, and a summary dismissal of a potentially useful procedure seems short-sighted at best" (p. 16).

Procedures

Eighteen experienced ninth and tenth grade social studies teachers in Clark County, Nevada, were subjects of the experiment.

These teachers were assigned at random to one of three treatments. Teachers in the nonbehavioral objectives (NBO) group received five objectives which outlined the content areas in social science research methods but did not describe the specific behaviors to be tested. Teachers in the random behavioral objectives (RBO) group received a list of five objectives, selected at random, from within each of five major content areas. The instructional expert behavioral objectives (EBO) group received a list of five behavioral objectives, selected from twenty-three by a team of three reputed experts in the field of social science research methods. Each objective was matched with goals on the other two lists in terms of content, e.g., objective one on all three lists dealt with hypotheses. The teachers were given no practice in attending to specific cues included in the statement of goals. Teachers were told that they might develop the objectives in any manner they wished. In fact, they were not required to use any of the materials. All teachers were asked to teach their set of objectives for two class periods (approximately 100 minutes). Immediately following the second day of instruction, a pupil posttest was given in order to evaluate student learning.

An important aspect of the study was a teacher questionnaire, consisting of questions regarding the teachers' feelings about the objectives and materials given them. It was expected that the teachers in the two groups which received behavioral objectives would perceive the materials as being more useful because of the specific guidance given by the objectives, and would therefore select relevant activities for the students. The questionnaire also asked the teachers to judge which of the many test items would measure directly the objectives they had been given.

Statistical techniques included item analysis based on trials of the test material with 57 high school students, reliability data using the Kuder-Richardson formula 21, item sampling, a one-way analysis of variance of achievement data from the student test scores, and a one-way analysis of variance on affective data of the teacher questionnaire relating to the usefulness of the objectives and the resource material.

Findings

No significant differences were found on the items directly measuring the objectives, on the transfer items, or on the teacher questionnaire. The random behavioral objectives group out-performed the other two groups on the total test as well as on each sub-scale, although the differences were not significant. The analysis of the data indicates that the treatment variations as presented were not powerful enough to change the dependent variable performance. The behavioral objectives treatment had no major impact on the teachers.

The subjects in the experiment seemed to feel more comfortable with the nonbehavioral objectives. This conclusion is supported by the questionnaire in which the teachers given the nonbehavioral objectives rated their objectives higher than either of the other two groups. Baker also concludes that teachers with nonbehavioral objectives have multiple interpretations of what the objectives mean. They often infer competencies which are not measured by the behavior represented on the test.

DISCUSSION

This study is believed to be the first experimental comparison between behavioral and nonbehavioral objectives. It is well-conceived, with the background material, discussion, and illustrations as important to education as the experiment itself. The study can easily serve as a starting point for research on behavioral objectives in music education, since its rationale is sound and its design and statistical techniques are appropriate for the problem posed. Of particular value to music education is Appendix A, in which the investigator defines operationally the attributes of the behavioral objectives which were derived from nonbehavioral objectives, and offers suggestions on how to write behavioral objectives.

A replication of this study is needed in which a group of teachers thoroughly trained in the use of behavioral objectives (recognizing them, planning activities designed to achieve them) is contrasted on the basis of student achievement with an untrained group of teachers. An expansion in the treatment time and an increase in the number of participating teachers would also help clarify the role of behavioral objectives in education.

Paper and pencil tests are one way of evaluating student learning. It seems that, in a study such as this, students could have been asked to actually carry out a social studies research project. Less formal testing and more response to real-life situations may be recommended in future studies of this type.

It is clear that listing behavioral objectives in a curriculum guide for teachers to follow is not enough. The study seems to suggest that teachers must have first-hand experience in stating and then using behavioral objectives in their work. Teacher education courses, especially those dealing with curriculum and instructional methods, need to help students define content, method, and desired student behavioral change. Training in the use of behavioral objectives is needed whereby pre-service and in-service teachers are given practice in attending to specific cues (the verb, the nature of the student behavior, the method of evaluation) included in the statement of goals. If learning is defined as a change in the learner's behavior, then there is a need to ask how the students will be different as a consequence of instruction. Using behavioral objectives to aid teachers in their planning may provide us with much insight into methods of teaching our subject matter. There is a need in music education to unambiguously describe in our goals specific observable learner behaviors. The clearer these aims are with respect to what students can demonstrate, the better the objectives will serve the teacher. While the bringing about of measurable behavior changes in the learner is only one function of the teacher, it is reasonable to assume that this should be the focus of the majority of the teacher's efforts.

Formulating behavioral objectives is a challenge. The teacher needs to define explicitly what it is he wishes to accomplish and then be conscious of this throughout the instruction. The means to measure student learning must also be considered. The use of behavioral objectives in instruction, in effect, tests the teacher's own instructional competencies. Baker suggests that it may be necessary to systematically reward teachers for producing behavioral changes in the learner, paying perhaps $100 if 75 percent of their students achieve the objectives and $200 if 90 percent achieve the objectives. She writes: "Until teachers receive clear and satisfying compensation for truly bearing the responsibility to produce measurable pupil learning, it is foolish to expect them to undertake such an arduous task when it is far easier for them to simply maintain their current and possibly less efficient routine." Must this compensation be in material gains? Causing behavioral change in our students is the essence of teaching and may be enough reward for most dedicated teachers.

Critics of behavioral objectives often claim that learning in the arts may be more difficult to state in behavioral terms than is the case with other subjects. One danger of the approach may be that subjects which are more easily framed in behavioral terms can take precedence over those subjects in which behavioral objectives are more difficult to conceive. Will music be valued equally with mathematics in a behaviorally oriented curriculum? We also need to guard against stressing the technicalities of music over the basic meanings and principles if a behavioral approach is adopted.

Several questions which can provide the foundation for further research may be posed as a result of this study. Are there some types of teachers who can benefit more from objectives stated behaviorally than others? What is the effect of subject content on objectives? Can a model for behavioral objectives be formulated so as to facilitate the process of stating objectives? Can all learning outcomes be defined in the form of behavioral objectives?

The behavioral objectives approach promises to be a major vehicle for curriculum development and revision in the future. Its application to music education should be of prime concern to all of us in the years ahead. Before joining the bandwagon, it is imperative that we analyze critically the pros and cons of the approach and initiate studies which investigate the applicability of behavioral objectives to music education.

Bauer, Harold Edward. A Guide for the Cooperating Teacher in Music. Columbia University, Ed.D., 1968. Order number 69-15,153. Reviewed by Carroll L. Gonzo

Bauer has written this guide in an attempt to gather, classify, and evaluate data about the cooperating teacher's role and relationship with the student teacher, thereby providing the music profession with a description and interpretation of this role which has hitherto not been available.

THE PROJECT

Bauer indicates in his opening sentences that his study is intended primarily as a guide for cooperating teachers. Specifically, he makes an effort to provide information for cooperating teachers about materials, techniques, and procedures currently employed by the best music student teaching program. Because much of the plethora of student teaching material is not directly applicable to student teaching in music, the author feels a need for this project. The procedure is to study the role of the cooperating teacher through: (a) surveying available printed materials, (b) examining existing practices, and (c) drawing upon the writer's experience in this field.

THE GUIDE

In Chapter Two Bauer establishes the importance of interrelationships among music, the cooperating teacher, and society. Subsequent discussion gives a rather detailed account of the music education curriculum and its objectives with considerable space devoted to the value of the student teaching experience as it relates to the student teacher's college courses.

The relation of the "professional team" to the student teacher is the concern of Chapter Three. Bauer delineates the role of each team member--the principal and other administrators, the college supervising teacher, the music education teacher, the supervisor of music in the school system and the cooperating teacher--and the interrelationships among the members of the team. He explores in depth the personal qualifications of the cooperating teacher and the requirements for an acceptable cooperating school.

The next seven chapters of Bauer's thesis deal with observation experiences, participation, musical objectives, planning experiences to achieve musical objectives, teaching experiences, conferences, and evaluation in student teaching.

In-class participation, and to some extent out-of-class participation, says Bauer, are important aspects of student teaching.

Involvement allows him to learn by doing. These activities help him to relate theory to real situations, and to develop a sense of responsibility. Participation also provides a comfortable transition into classroom activities while aiding in determining the student teacher's readiness for teaching.

Musical objectives are dealt with in light of an understanding of behavioral objectives. A lengthy discussion in Chapter Six deals with yearly objectives, instructional objectives, and teacher-formulated objectives. The fundamental assumption in this chapter is that objectives, musical and behavioral, are basic to every aspect of music teaching.

In Chapter Seven, emphasis is on the fact that basic to any planning is an understanding of the musical and behavioral objectives defined in Chapter Six. Bauer suggests that the cooperating teacher might: (1) share his lesson plans with the student teacher; (2) make lesson plans with the student teacher after which the student teacher makes his own lesson plan, possibly enlisting pupil aid before putting it into operation. The final section of the chapter is a model lesson plan for teaching music to a sixth-grade student.

Conferences, says Bauer, are a vital part of the student teaching program. He views the conference as an arena in which the cooperating teacher is the leader and the student teacher is an active learner. Relative to the conference, the writer discusses guidance, types of conferences, standards and techniques, number of participants and degrees of structuring, conference times and places, and formal and informal conferences.

The final chapter of the dissertation focuses on evaluation. The investigator defines evaluation as the process of ascertaining the extent to which the objectives of music education have been achieved. The nature of evaluation is analyzed in this chapter in terms of its relation to the college supervisor, the cooperating teacher, and the student teacher.

COMMENTS

It is a credit to Bauer that he chose student teaching as his area of concern and specifically the cooperating teacher's function in preparing college seniors for the teaching profession. Individuals who have served either as college supervisors, cooperating teachers, and/or student teachers are well aware of the importance of the student teaching experience. They are also aware of the importance of carrying forward this activity efficiently, effectively, and with a professional know-how that will hopefully result in producing qualified music teachers. The problems to be researched in this area are many and varied. The profession needs, therefore, individuals who can begin to identify these problems and work toward viable solutions.

A cooperating teacher using Bauer's guide will discover that it is well organized and provides specific examples and clear definitions. Although the chapters logically follow one another, they can be used separately or in combination in terms of dealing with specific questions or problems that may arise.

Since the author chose to write a guide, his thesis does not fall into the usual research categories, i.e., historical, philosophical, experimental, or descriptive. Therefore, it is not reasonable to make a critical analysis of his guide in the framework of these methods of research. Rather, it is necessary to evaluate its merits as a guide and not as a research endeavor.

As mentioned earlier, the work presents information obtained by surveying the available materials in print, primarily McGuire's survey and the work of Florence Stratemeyer, examining the existing practices, and drawing upon the author's personal experience. The end result is a synthesis of available knowledge that has been organized in a logical sequence but which takes the form of an inordinate number of quotes laced throughout the project, and has a minimum of material based on existing exemplary practices.

This approach raises serious questions about the real merits of Bauer's guide for what the reader encounters is primarily information that can be found in other sources. In other words, one is not getting new knowledge but rather extant knowledge in summary form. Consequently, one questions whether Bauer's guide is any more effective than any other guide of this nature. The reader would have more confidence in the merits of the project if evidence in the nature of research analysis appeared in the work. The value of the guide is diminished considerably because the writer failed to draw his information from primary sources but chose rather to rely on secondary and tertiary ones. Many chapters such as the one on evaluation are naive in their approach and in the examples used. This weakness could have been minimized had Bauer utilized available valid and reliable survey methods as a means of collecting and evaluating opinions and practices in the field. This suggests the use of carefully constructed and tested opinionnaires and/or questionnaires. The thesis contains no evidence of how the opinions of Bauer and of the professionals he spoke to were recorded and adjudicated. Consequently, the reader is not able to make any analytical judgments about the types of questions and answers that Bauer used in his polling process.

There are additional questions of concern to this reviewer. What criteria did the author use in selecting the institutions utilized in his study? What were the criteria employed in determining the professional qualifications of a cooperating teacher? Can this handbook or any other handbook for cooperating teachers serve as a guide by which cooperating teachers can improve the quality of the students they supervise?

It is not reasonable to criticize Bauer for choosing to develop a guide to deal with the problems regarding the role of the cooperating teacher. The question of whether or not there are more effective ways of defining and evaluating the problems of the role of the cooperating teacher does, however, arise. It is this reviewer's belief that "action research"--defined as systematic on-the-job analysis--can provide data for the researcher that can be categorically classified, evaluated, and interpreted. This method is, after all, more rigorous and a good deal more reliable and conclusive than amassing and tabulating facts from secondary and tertiary sources.

Cooperating teachers might well consider Bauer's guide in their work. A careful consideration by cooperating teachers of Bauer's practical synthesis of ways and means of aiding student teachers is far better than simply proceeding blindly with no professional direction. However, researchers seeking qualitative and quantitative answers to problems related to the role of the cooperating teacher still have a viable problem in need of careful research.

Benison, Betty Bryant. A Plan for Programming Sequential Integrated Dance and Rhythmic Activities for the Elementary School Level Utilizing the Medium of Television. University of New Mexico, Ph.D., 1968. Order No. 69-9278.
Reviewed by Betty Rowen

Although it has been generally agreed that dance and rhythmic activity have a place in the elementary school curriculum, few school systems have developed programs of this nature. The reasons why little has been done in this area include "budgetary problems, a paucity of teachers qualified to teach dance skills effectively, and a lack of foresight coupled with inconsistencies in curriculum planning which have precluded the inclusion of certain experiences even though studies have indicated a need for such experiences."

Betty Benison has proposed a possible solution to these problems by designing a teleclass program which provides a team teaching collaboration by the television teacher and the classroom teacher to make practicable the inclusion of dance and rhythmic concepts in the elementary school curriculum.

She has presented eighteen sequential lessons designed for the first nine weeks of fourth grade, with implications for continuing through grades five and six. A teachers' guide is provided for each lesson as well as the TV Run Down Sheet which summarized the action for the camera crew. Topics for each teleclass deal with the standard beginning modern dance themes and include identification of body parts and exploration of what the body can do, space patterns, timing, force, and basic axial and locomotor movements. The guide to each teleclass gives the classroom teacher the concepts to be emphasized, suggestions for preparation and follow-up, and an outline of the activities to be undertaken by the television teacher.

There are many attempts to encourage the students to devise movement patterns of their own. The television teacher has the children stand on one foot while making a circling motion with the other leg which is extended forward or sideward. Then she asks, "What can you do for better balance?"; "What else can you do while standing on one foot?" The classroom teacher is instructed to "substitute child-centered experiences for teacher-centered experiences in order to evoke from each child his own movement patterns in relation to his own personal capacities and limitations." Thus, an effort is made to overcome the usual shortcoming of television teaching, that is, the lack of "feedback" from the students.

The chief goals of a program involving dance via the medium of television are to present an instructional, as well as aesthetically satisfying, viewing experience. For this reason, a working knowledge of both media is essential for the teleclass teacher. The appendix of the study includes an instruction manual to introduce the choreographer or dance educator to techniques of programming for instructional television. Throughout the manuscript, there is an emphasis upon careful planning and upon developing understanding and respect among members of the group consisting of the teleclass teacher, the classroom teacher, and the television director.

Two questionnaires were circulated by the writer to determine if educators felt that television could be effective as a medium for instructional dance. Although it was agreed that television should be used for dance instruction, rather than for mere entertainment, the lack of knowledge and background on the part of the dance educator, insofar as programming for television was concerned, was stated as a serious limitation. This study is a step in the right direction and should serve as stimulation for further investigation. Since the use of instructional dance and rhythmic activities via the medium of television is still a relatively recent innovation, there is a paucity of literature and a limited number of persons who have been directly involved in this type of production.

The time is ripe for more extensive investigation of the possibilities suggested by this study. Closed circuit television is a reality in many school systems, but effective programming still needs to be developed. The importance of movement in the education of the elementary school child has been established through research,[1] and its effectiveness has been demonstrated in a classroom setting.[2] Putting instructional television to work in an effort to bring dance into the schools might be an effective method for meeting a long-recognized need.

References

[1] Haberman, Martin, ed., Dance: An Art in Academe, New York: Teachers College Press, 1970. (In a series of articles by dancers and educators, the need for the inclusion of dance in the public schools is established.)

[2] Rowen, Betty, Learning Through Movement, New York: Teachers College Press, 1963. (The experiences of one teacher in presenting dance activities to elementary school students is described.)

Borkowski, Francis. The Relationship of Quality of Work in Undergraduate Music Curricula to Effectiveness of Instrumental Music Teaching in the Public Schools. West Virginia University, 1967, Ph.D.
Order number 67-11,778.
Reviewed by Edwin L. Simpson

In the introduction of his thesis Borkowski called attention to what has become a legendary question in teacher education; that is, what are the particular ingredients of a teacher's experience, preparation, personality, etc., which will predict success in teaching effectiveness? He asserted that although teacher preparation institutions are charged with the task of developing effective teachers, seldom do these institutions render empirical data which will attest to the degree of success they are attaining.

In his quest for such data Borkowski attempted to relate some available measures of college success to apparent success in professional work later on. He hypothesized that if teacher education programs are attempting to prepare effective teachers, a positive relationship should exist between the quality of work an undergraduate does in his preparation and the effectiveness he later exhibits in the classroom. Thus he proposed "to determine the effect of quality of work in undergraduate courses on success (effectiveness) in teaching instrumental music."

Through a rather extensive and highly recommendable review of literature Borkowski concentrated on studies pertaining to (1) teaching effectiveness prediction and (2) teaching effectiveness measurement. In addition he called the readers' attention to the dearth of research regarding the effect curriculum has on teaching effectiveness.

Research studies included in the above-mentioned first area of concentration are listed under the following headings: measures of personality, measures of behavior descriptions, measures of academic background, and measures of intelligence. Those associated with teaching effectiveness measurement (the second area of study) were categorized as follows: measures of judgments by experts, measures of judgments by pupils, and measures of pupil achievements. He concluded that the findings were typically contradictory and/or inconclusive.

METHODOLOGY

Selection of the Subjects

Fifty-three West Virginia high school band directors were chosen to cooperate in the study. Principal criterion for selection was based upon the subjects having graduated from either Marshall University, Concord College, Fairmont State College or West Virginia University and having at least three years' teaching experience. Other requirements considered in selecting schools and subjects were availability of records and homogeneity of curricula among participating schools.

Measurement of Undergraduate Work

Grades received and a self-rating scale were used to measure the quality of undergraduate work done. Grades received in the following areas were considered in the study: music history, music theory, major performance instrument, minor performance instrument, education courses, academic courses, practice teaching, music courses (other than above) composite average.

In addition each participant was asked to rate himself (from one to ten) according to his perceived level of performance ability on his major instrument.

Measures of Teaching Effectiveness

Student Performance--Eight of the best performers from each of the participating schools recorded musical examples prepared by Borkowski which were later evaluated by him and other college instrumental specialists. Ability to play (1) expressively, (2) rhythmically accurate, (3) fast staccato, (4) fast legato, and (5) to sightread were considered in making judgments.

Students were also given written examinations in theory and music history prepared by the researcher. These required association and identification of fundamentals of music mechanics and well known men and works of music.

Band Performance--Each of the subjects' high school bands' regional or area festival performances of required festival selections was tape recorded. The experimenter and two college band directors judged the band performances from the tape recordings on the following factors: tone quality, intonation, technique, balance, interpretation, and overall musical effect.

Judgment by Experts--An evaluation of each subject's teaching effectiveness was obtained from three sources: (1) the chairman of the appropriate music department, (2) superintendent of the county where the subject was teaching, and (3) the researcher, who claimed familiarity with the work of all subjects. Data were converted to numerical values of one through ten to facilitate use with a computer.

Treatment of the Data--Nine measures of the subjects' background and 31 teaching effectiveness factors were analyzed on the basis of a simple and partial correlation coefficient. The two variables, namely years of teaching experience and size of school were statistically held constant to achieve the partial correlation.

RESULTS

Borkowski found no correlation significant at the .05 level, however, some relationships were cited as being worth attention. Correlation coefficients between certain parts of the subjects' backgrounds and the evaluation of their teaching effectiveness by experts approached the desired significance level. Grades received in music theory, minor performance instrument, practice teaching, other music courses than those specifically mentioned, and the composite grade average when compared with the evaluation of teaching effectiveness by experts produced rather high coefficients. The high correlation coefficients indicate that the ability to perform on the major performance instrument, as measured by a self-rating, is related to teaching success, as measured by judgments by experts and band performance factors. It was Borkowski's conclusion however, that only a slight relationship existed between quality of work done in undergraduate courses in music education and teaching success as defined in this study.

CRITIQUE

Dr. Borkowski is to be commended in selecting one of the most significant problems in teacher education. He also deserves an accolade for bravery in attacking a problem which presents the vast number of variables which this type of study possesses. Realizing this condition, the researcher is prompt to point out in his summary statements many factors outside his study which may influence results in the relationships which apparently do or do not exist.

In reviewing Borkowski's methodology, the question of sampling technique comes to mind. Although this type of design obviously does not require a random sample, the selection of the group of subjects may represent a strongly biased sample. This, of course, would influence the findings in this study. The fact that the researcher apparently knew all of the subjects and the work that they had done indicates that this portion of the design may be deserving of closer investigation.

It would be of interest to discover what relationship, if any, exists between Borkowski's measures of academic success and judgments made by people more immediately associated with the subjects and their work. Persons such as immediate supervising personnel (department heads, principals, etc.) and students may offer a different perspective of "effectiveness" in teaching and thus a different type of judgment.

The type of research which Borkowski has provided represents another valuable step toward better understanding the process which perplexes all who bear the responsibility--that of preparing effective teachers.

Boswell, Jacquelyn. An Application of Bruner's Theory of Mental Growth to the Teaching of Musical Concepts in Beginning Instrumental Music. University of Illinois, Ed.D., 1969. Order No. 70-798.
Reviewed by David J. Marchand

PROBLEM

The past decade has seen the instrumental music education program strongly criticized within the professional literature. These criticisms have suggested that the instrumental music program exploits young people for public relations, entertains rather than instructs, and generally has not realized its potential for providing worthwhile musical experiences for participating students. Dr. Boswell is also critical of the instrumental program finding fault in objectives and methodologies which solely develop technical skill to the exclusion of individual growth in musicianship and understanding. The present study was developed from the investigator's belief that musical understanding can best be achieved through the systematic teaching-learning of those concepts which comprise the underlying principles of music. Thus, instrumental music should be considered as a means to the development of such concepts rather than as an end in itself. The study was, therefore, involved with teaching strategies which provide specific means of establishing a methodology for teaching music concepts.

PURPOSE OF THE STUDY

The study had as its major concern the formulation of teaching strategies by which the concepts that are basic to musical understanding could be systematically taught through beginning instrumental music. The learning theory of Jerome S. Bruner was utilized as the source for the development of the study, not, as the researcher states, because other theories have no value, but because Bruner's theory was believed to have promise in the solution of the learning problems involved in the study.

The following specific questions were formulated:

1. What are the basic tenets of Bruner's theory of mental growth?
2. What relevant procedures for teaching musical concepts can be derived from Bruner's learning theory?
3. What musical materials are appropriate for teaching musical concepts to beginning instrumentalists?

4. How can the concepts be presented sequentially in beginning instrumental class?

PROCEDURES

Chapter II in the study examines recent professional literature to assess those common learnings which music educators generally believe contribute to basic musical concept development. This chapter also reviews research studies pertaining to instrumental instruction related to conceptual musical development.

Chapter III surveys Bruner's theory of cognitive growth in order to find effective techniques for teaching concepts.

In Chapter IV, implications drawn from Bruner's theory are related to music education generally and specifically to the teaching of basic musical concepts through the beginning clarinet class.

The last chapter focuses previous discussion directly into a sequence of fourteen clarinet lessons designed and structured by the researcher to develop basic music concepts.

FINDINGS

Since the study is analytical rather than empirical or manipulative, pertinent findings are contained within each chapter. Consequently such findings are reported as they appear within the research document.

Chapter II

In defining a music concept, the researcher states:

> A concept embodies members of a class of events, objects, and in music, sounds, which are grouped together on the basis of some common feature or attribute. For example, the concept of melody embodies motion and direction as characteristic attributes (p. 17).

From the literature reviewed in Chapter II the conclusion was that a consensus of opinion did exist about the primacy of melodic, rhythmic, harmonic, and form concepts.

Chapter III

The researcher's finding from the detailed examination of Bruner's complex developmental theory disclosed eight basic tenets listed in the report on pages 45 and 46.

1. Children conserve their experiences into models which represent the world in which they operate. The models are conserved through action patterns, sets of images and sets of symbols.

2. The systems of representation develop in successive order, beginning with the enactive, then the ikonic, and later augmented by the symbolic. They are not, however, inevitable discrete stages since their development depends on the external demands made of the organism to utilize them.

3. After the appearance of each, all systems remain intact throughout adulthood. They interact with each other, are partially translatable, and they guide and support further actions, images, and symbols.

4. Representations are shaped by the enabling powers of the culture and the heritage of man's evolution which impose ways of adapting to the environment.

5. The state of conflict between two modes of representation acts as a stimulant to growth, forcing the organism to revise his behavior and seek alternatives in order to reach concordance.

6. The symbolic mode, perhaps the most powerful of the three, enables the child to go beyond the information given in momentary situations in order to deal with abstractions.

7. Cognitive growth is marked by increasing ability to deal with multiple variables and several alternatives simultaneously, and their means of searching for information reflects this development.

8. Concepts are formed as events encountered are categorized, based upon common attributes of the event. Ways of searching for attributes of the concepts are influenced by the different ways events are represented. There is a progressive growth pattern from surface and single features used for grouping, to a consideration of a number of imbedded features.

Chapter IV

Five principles in teaching for musical understanding (pp. 48-57) were derived from the basic tenets of Bruner's theory in relationship with the nature of the music concepts. These principles were consequently considered as fundamental guidelines in the development, design and structuring of fourteen clarinet lessons for use in beginning instrumental music.

1. The development of musical concepts is based upon the utilization of a generic coding system.

2. The optimum sequence of early experiences in beginning instrumental music should progress in a manner consistent with the course of cognitive growth.

3. In concept identification, meaningful verbal cues should be given in classifying stimulus patterns.

4. Experiences should be provided which alert students to "sameness" under changed conditions.

5. Guidance should be given the learner to explore concordance and discordance among the modes of representation.

COMMENTS

These type of research projects serve a useful purpose within the profession in that they uncover and analyze relationships between the various disciplines which go to make up music education, in this case, the disciplines of psychology and music. Concepts and their acquisition would seem to be a field of inquiry with many worthwhile possibilities. (Note the increasing number of graduate music education courses entitled Basic Concepts in Music Education). In this light, the study raises many vital and interesting questions and issues. For example, does a learner, no matter what his age, need to return to the enactive mode when confronted with a new discipline or a somewhat exotic problem and subsequently work his way through to the symbolic mode? Another question the study raises is that regarding the catch phrases "structure of the discipline" and "spiral curriculum." Are there actually such things in music, or, for that matter, in any of the arts? Can actual curriculum be developed to reflect these phenomena?

The obvious shortcoming of this study, and of most studies of this type, is the lack of adequate data to support conclusions. Although a case for concept development employing Brunerian theory is developed, an attempt at organizing and structuring lessons utilizing the ensuing methodological principles was insufficient. The study merely proposes certain behaviors with no attempt to investigate whether such behaviors are actually viable or not. In acknowledging this deficiency, the researcher states:

> The investigator does not in any way assume that a few lessons provided in the study will assure an adequate grasp of the basic concepts. They are not thought to be exhaustive, they are exemplary only and should be considered merely as suggestive approaches which hopefully will sharpen

> students' perceptual ability so that responsiveness to music may occur (p. 60).

It would seem appropriate to the stated problem that not only would it be necessary that complete and exhaustive lessons be devised and sequenced, but also that these lessons be actually taught and students' subsequent achievement on criteria measures be assessed. In defending the need for the study, the researcher indicates that experimental data, especially concerning concept learning, are necessary, relevant and rapidly accumulating. It does seem strange, then, that the researcher's own project was not designed to supplement such experimental data.

Further, the fourteen conceptually organized clarinet lessons which constitute the entire last chapter were not entirely clear to the reviewer in terms of their stated exemplary or illustrative purpose. Perhaps some coding system showing reference and relationship between the materials and procedures of the lessons with the five guiding principles of Chapter IV would have provided greater understanding in proceeding from the prior theoretical discussion to the actual teacher and student behaviors indicated within the fourteen lessons.

The area of concept development has many perplexities, not the least being semantic difficulties in the literature. Nonetheless, the research report reads fairly clearly. Hopefully the researcher will find time to organize and carry out an experimental project to complement the present study.

Branning, Howell Pierre. Audition Preferences of Trained and Untrained Ears on Hearing Melodic and Harmonic Intervals When Tuned in Just Intonation or Pythagorean Ratios. University of Texas, D.M.A., 1967. Order No. 68-4242.
Reviewed by Paul Haack.

INTRODUCTION

This study dealt with problems relating to intervallic hearing and audition preferences. The hypothesis, stated simply, was that man hears musical intervals in their melodic or their harmonic context and desires two different tuning systems according to these varying contexts: Pythagorean intonation for melodic intervals and just intonation for harmonic intervals. Questions relating to this hypothesis, for which answers were sought, included the following: Considering just and Pythagorean intonations, do listeners prefer one system of tuning over the other, exclusively? Do harmonic intervals demand one system of tuning and melodic intervals another? Do listeners prefer melodic or harmonic intervals when the tuning system is the same for both types? And what is the effect of training and musical experience with regard to these problems?

PROCEDURES

An extensive review of related literature and research was organized around and based upon four hearing phenomena: discrimination, tolerance, detuning, and tuning preferences. The experiment itself required the development of test tapes which were based on twelve different intervals, each heard at varying times in its melodic and harmonic forms, in just intonation and Pythagorean tuning, and as simple and complex tones.

A pilot test tape was devised for the purpose of finding subjects capable of hearing the minute differences in tuning involved in the experimental tapes. This "pretest" tape was administered to over 1100 persons in an effort to find approximately 20 "qualified" subjects in each of six groups: university undergraduate music majors; young musicians (defined in terms of extensive performance experience) of secondary school age; young nonmusicians (very limited music instruction) of junior high school age; university nonmusic majors; university graduate music theory students; and university graduate musicology students.

It is interesting to note that group size was reduced to an average of approximately 15 subjects because so few of the 1100 potential subjects could perceive and effectively employ the phenomenon of beats, as determined by the pretest. With all of its relevance to theory and performance, Branning notes that this phenomenon should be presented to young people at an early stage in their musical development.

The test tapes proper were presented to the 93 subjects who were selected on the basis of the pretest to comprise the six groups. The resultant data filled five pages of tables. However, the investigator chose not to submit the data to comprehensive statistical treatment, but rather to present his information in terms of percentages and averages of percentages.

FINDINGS AND CONCLUSIONS

1. A preference for just intonation was found with regard to what the investigator termed the less complicated intervals (major 3rd, major 6th, minor 3rd, minor 6th, augmented 4th, and whole tone).

2. "Melodic intervals are harder to distinguish than harmonic intervals," as indicated by less conformity between responses to melodic intervals and the hypothesis. The pretest, a section of which required potential subjects to identify two pairs of tones as representing the same or different intonations, offered further support for this conclusion. However, 60 percent of the time, Group II (all string players who had received much training in the performance of melodic intervals) "missed" fewer of the simple melodic intervals than did all other groups.

3. In the comparison of two intervals of different types--one melodic interval and one harmonic--there is a tendency to prefer the melodic interval if the harmonic interval produces beats causing a harsh dissonance.

4. The more complicated intervals (arbitrarily defined by the investigator to include the augmented prime, minor second, diminished 5th, augmented 5th, major 7th, and minor 7th) resulted in data which were inconsistent to the extent that they failed to offer any firm support for the hypothesis of the study.

5. Subjects tended to express preferences more congruent with the hypothesis when hearing items presented in complex tones than in pure tones. This was with reference only to the simple intervals.

COMMENTS

To begin with a personal reaction not related to the effectiveness of the study per se, it seems desirable that music educators develop more appropriate terms than "untrained ears" and "ear training" for their discussion of musical listening. What is being dealt with in this study, and in theory courses which also utilize these terms, is not simply sound reception and transduction, the function of the ear, but much more: attending to, perceiving, and relating tones is a relatively complex mental function.

A major strength of the study lies in an excellent, concise review of the more recent related literature, including several previously untranslated foreign sources. The investigator liberally spiced the review with personal comments, criticisms, and comparisons which added interest to the entire exposition. In addition, terms were usually defined clearly and succinctly, if somewhat arbitrarily.

Another strength lies in the preference testing approach which provided for presentation of items having both intervals of one type (either melodic or harmonic) with intonation varied, as well as items containing both types of intervals with intonation remaining constant over the item.

Unfortunately, very little detail is provided concerning the actual experimental procedures, which are presented in a chapter only six pages in length. Thus, scant information is available concerning matters such as selection of the pretest and final samples (and, for example, the "nonmusician" status of Group III, which might be questioned because only those most successful in the pretest were employed as subjects for the final testing). The investigator's basis for determination of simple and complex intervals is not clear, and no information is offered concerning the methodology employed in the placement or ordering of test items--or whether randomization was used at any time during the study in an effort to alleviate possible systematic effects.

A similar problem is encountered in the very brief chapters concerned with the data and the summary and conclusions. It seems that even limited statistical treatment of the data presented would allow for much more accurate and complete answering of the questions posed earlier in the study. For example, one of the conclusions cited above states that "Melodic intervals are harder to distinguish than harmonic intervals." Yet, when the reviewer applied a $\underline{t}$ test for significance of difference between percentages, no significant difference was found with regard to the subjects' responses to the simple melodic and harmonic intervals under consideration.

It is felt that further statistical treatment could make the large and cumbersome mass of raw data which are presented in the five tables less confusing, and more manageable, practical, and meaningful for a reader. This might be accomplished through utilization of techniques ranging from a simple analysis of variance to multi-dimensioned factorial designs. It is suggested that, with more complete information concerning procedures, someone may decide it highly worthwhile to carry on such treatment. The raw data are plentiful.

In conclusion, it is also suggested that more investigators, advisors, and doctoral candidates consider work in the increasingly important area of psycho-acoustics. The times demand that musicians be better informed with regard to the acoustics of music, and this, in turn, would seem to require further development of courses in the area, as well as the establishment of more and better equipped psychology of music laboratories. Expansion of knowledge in this area seems more vital and essential to music teachers, performers, composers, and consumers now than ever before. In this age of Moog, situations such as the availability of a variety of tuning systems should no longer present problems, but opportunities --opportunities which can be utilized effectively only with more knowledge.

Bridges, Virginia Ann. An Exploratory Study of the Harmonic Discrimination Ability of Children in Kindergarten Through Grade Three in Two Selected Schools. The Ohio State University, Ph.D., 1965. Order No. 65-13,206.
Reviewed by Barbara Connally Kaplan

PURPOSE

The experimenter has explored the possibility that findings of C. W. Valentine (1913), of Sophie Belaiew-Exemplorsky (1926), and Hans von Rupp (1914-15) in regard to the absence, or the presence in minimal degree, of harmonic discrimination before the fourth-grade level might be applicable to primary grade children in the United States. The author states specifically that the purpose of the study

> was not to test the degree to which children could determine the appropriateness of possible accompaniments, but rather to determine if children heard more than the melody line when a familiar song was played, and if in their hearing, they were sensitive to gross harmonic differences only, or if they were also sensitive to fine ones.

Certain subpurposes were included: whether differences in ability existed (1) in programs under the direction of music specialist or classroom teacher, (2) in boys and girls, and (3) in listening to a well-known or an unknown melody. These purposes seem to be of a cumulative nature, interrelated, and, of course, dependent on the primary purpose.

PROCEDURE

The experiment included the testing of 378 children enrolled in kindergarten through grade three in two public elementary schools of similar socio-economic background. One song (verified by the children's teachers as unfamiliar) was taught to the children by the experimenter, who was careful to work only with the melodic line and to ascertain, by testing in small groups, the fact that the melody had become thoroughly learned by the children before the test was administered. The test itself involved four testings over a period of three months, three with the known melody and the fourth test with an unfamiliar melody. The known melody was played with accompaniments which were termed "appropriate," "radically altered," or "slightly altered" and with the accompaniments presented in varying pairs at each testing. For example, at the first testing, the children heard three pairs of accompaniments. The order of these pairs was rearranged for each testing as follows:

ORDER OF PRESENTATION, BY TESTING,

OF THE PAIRED ACCOMPANIMENTS

Paired Comparison	Well-known Melody Accompaniments			Unknown Melody Accompaniments
	Testing I	Testing II	Testing III	Testing IV
1	Appropriate Radically altered	Slightly altered Appropriate	Radically altered Slightly altered	Appropriate Radically altered
2	Slightly altered Appropriate	Radically altered Slightly altered	Appropriate Radically altered	Slightly altered Appropriate
3	Radically altered Slightly altered	Appropriate Radically altered	Slightly altered Appropriate	Radically altered Slightly altered

At every testing, including the practice session, the directions for the testing stated:

> You are going to hear some music played in different ways on the piano. After you have heard the music, I am going to ask you to decide which way sounded better to you or if both ways sounded all right.

Answer sheets were carefully planned in regard to the capabilities of the youngest participants. After the testings had been completed, responses were tabulated by each testing and by sex for each grade and for each of the two schools. After the raw data were changed into value categories in terms of harmonic discrimination, they were presented in terms of percentage of subjects who scored at each harmonic discrimination level and in relation to the primary purpose and each subpurpose of the study (grade level, sex, type of music program).

CONCLUSIONS

Based on the major findings of the study, the author reached the following conclusions (paraphrased by the reviewer):

1. Children in kindergarten through grade three tend to discriminate harmonically in varying degrees, both within a grade level and between grade levels.
2. The development of harmonic discrimination is a continuous process.
3. Instances of harmonic discrimination in kindergarten may be chance scores.
4. Children of the grades tested do not appear to have consistent preferences for "appropriate" harmony.
5. There seems to be some difference between the harmonic discrimination of boys and girls.
6. Children with a background of music instruction from a music teacher discriminate harmonically to a finer degree than those receiving instruction from a classroom teacher.

CRITIQUE

Appearing at a time when there is new emphasis on the importance of the preschool and the early school years in the child's musical education, this type of study could be of great value to music educators. This particular report of experimental work in two schools is well-written, well-organized, and thorough in many respects, including the plan, the investigation of a fairly extensive literature--both European and American--and the careful analyses of the various sets of results.

In spite of these merits, there appear to be two basic flaws, one in approaching the stated purpose of the study, and the second in two of the assumptions made. These flaws tend to invalidate all conclusions made in terms of the stated purpose of the experiment.

The heart of the fallacy on which the study is based is seen in the test question. The purpose is ostensibly to determine an entirely objective goal: did the children hear differences? But the children are told that differences do exist, and they are asked to answer on a preferential, subjective basis rather than a purely objective one. The answers made by the children could not provide answers to the question upon which the study has been constructed.

Furthermore, the author makes four assumptions, the second of which is related directly to the question asked of the children:

> It was also assumed that there is an appropriate accompaniment for each melody used in this study; that the melody of a song has harmonic implications, in terms of cultural conditioning, that determine the chords used to make up the accompaniment.

Regarding this assumption, a more precise definition of terms would have substituted the word "traditional" for "appropriate" accompaniment, and, even more properly, a "traditional accompaniment in tonal style." One of the urgent facts of which too many music educators are not yet aware is the existence of many "appropriate" musics in this world of the twentieth century. Our children are now maturing with ears attuned to strong dissonances, to music of ethnic variety not based on traditional Western tonal systems, and to wide experience with the sounds of music. Is it not logical to expect that a child's preference for a "radically altered" accompaniment or for dissonance might be indicative of wide background in hearing many musics, of a strain of originality, or of a sophisticated taste appearing at an early stage?

The other assumption which should be carefully considered is that which holds that none of the children included in this study had a hearing defect. This does not seem to be a wise assumption in the conduct of an experiment based on the ability to hear. Such a point should have been ascertained rather than assumed. Many elementary schools require simple hearing tests for all pupils. These might have been used as the criterion for aural qualifications to participate in the experiment. If such a criterion was used in the experiment, the experimenter should have made information of this nature clear as fact, not as assumption.

The major findings, conclusions, and recommendations presented by the author lose all significance in the light of the inappropriateness of the test question as a means of securing information which would illuminate the goals of the experiment. The experimenter suggests that the study be repeated with nine expanded goals. However, the study should not be repeated in its present form. It might well be repeated in a revised format, incorporating changes in the testing which would more accurately establish the objectives of the experiment. The study has been thoughtfully planned and might well serve as a model for procedure, if the basic flaws and inconsistencies are eliminated.

Brinkman, James M. The German Male Chorus: Its Role and Significance from 1800-1850. University of Illinois, Ed.D., 1966. Order No. 67-6568.
Reviewed by Robert W. John

It is possible that more people knew of the male choruses written by Schubert, Schumann and Mendelssohn, during their lifetimes, than knew of their symphonies!

In an excellent socio-musical history, James Brinkman presents convincing arguments which reaffirm the premise that the significance of music is no less social than aesthetic. Music can serve as the reason for a gathering of a crowd of 100,000 young people. Or, it can serve as a stimulant for troops moving into battle. Or, it can serve as a major force in generating a spirit of nationalism in a people. It is to this latter point that the writer of this dissertation addresses himself.

The French Revolution had a marked effect on the German people. The years which followed were marked with wars and political events in Germany which precipitated a national consciousness unknown in the past. Literary leaders like Herder, Schiller, Klopstock and Uhland fanned the Vaterland flame, and by 1813 this spirit of nationalism was in full flower. Even the more conservative Goethe was swept up in the ground swell. It is not surprising then, that musicians set to music the works of these men. In turn, other men gathered to sing these songs. Male singing societies--Liedertafeln--became the major musical organizations to perform these songs.

A catalogue of music for male chorus written during the first half of the nineteenth century in German would include practically all of her living composers, from the greats of Schubert, Schumann, Weber and Mendelssohn, through the near greats of Zelter, Reichardt, Nagali, and their ilk, to the thousands of also-rans. This corps of composers wrote songs of the nation; songs of the villages; songs of the country; songs of loyalty and songs of honor. They also wrote war songs, drinking songs, love songs and every other type of song which would be attractive to men imbued with a newly acquired spirit of national fellowship.

Of greater importance is that through Brinkman's historical outline and analyses of some of the most popular of these songs he arrives at a well-researched narration in which he describes the male chorus in its social context in Romantic Germany during the first half of the last century. This story is told in a very readable and convincing style.

Brunson, Theodore Roland. An Adaptation of the Suzuki-Kendall Violin Method for Heterogeneous Stringed Instrument Classes. University of Arizona, A.Mus.D., 1969. Order No. 70-2683.
Reviewed by Robert L. Cowden

In the Introduction, Chapter I, Brunson comments briefly on the origins of string class teaching in America and establishes the rationale for string classes in the public schools.

Chapter II includes a description of the Suzuki plan of string instruction along with a thorough statement of Suzuki's philosophy of the teaching-learning process. The chapter title "The Suzuki Plan of String Instruction as Adapted by John Kendall" is misleading because Brunson does not show specifically how Kendall has adapted Suzuki's method. An actual adaptation of the Suzuki-Kendall violin method for heterogeneous classes was the substance of Chapter III. The adaptations are very simple for the most part. Tunes and exercises are taken from the Kendall Listen and Play, Books I and II[1], and transposed down a perfect fifth. The violin players, therefore, are performing for most of the year on the D and A strings instead of on the A and E strings as in the Kendall books.

Brunson reported in his chapter on results and conclusions that "there were no dropouts among these classes of unselected students other than in cases where families moved from the area." The reader is not informed as to how many students that might have been. No expert opinions or judgments were solicited in the study save that of an administrator--who may or may not be qualified to make such judgments viz. "it was felt by all observers that this was a superior method." (p. 133) Brunson reported that from an attitude standpoint the pupils who participated in the class had a "significant positive feeling...with regard to string playing." (p. 131)

Included in the appendices were biographical information about Suzuki, phonetic alphabet lyrics and study tapes, and a listing of many teachers throughout the United States who have utilized the Suzuki techniques and materials. It would have been helpful to have had this list alphabetized.

Critique

The thesis does not include a review of the literature pertaining to either of the two major concerns of the study; namely, heterogeneous string class instruction or the Suzuki method itself. Chapter I, although entitled "Introduction" is an attempt to deal with these two aspects, but the writer fails to explicate these areas satisfactorily.

The list of references concerning the Suzuki approach is very meager and omits many publications dealing with this subject.

The bulk of the musical material used in the study was taken from the Kendall, Listen and Play, Books I and II; however, other music was also included without explanation. The sources of several pieces variously titled Flemish, French, German, English, and Bohemian Songs, included in Figures 32, 33, 34, 35, 36, 37, 38, 39, and 59 were not identified.

Direct quotes are made from the Kendall Listen and Play without crediting the author. For example, on page 119, the following statement is found: "the 'andantino' should be felt in two broad swinging beats per measure, rather than in four beats. The middle section's quarter notes should be broad, sustained, and vigorous." This is a direct quote from Listen and Play, Book II, page 15, but is not footnoted. Likewise, on page 57 in the description of the material for figure 21, material is quoted from Listen and Play, Book I, page 18. Similar instances are found on page 71 under figure 30, and on page 114 under figure 55.

Brunson mentions the use of recordings by the student participants. Several questions occur concerning this procedure: Were the recordings discs or tapes? Were they mono or stereo? How were they made? Were they listened to at home or at school, or both? Were special recordings developed for this study featuring heterogeneous sounds or were the Listen and Play recordings of violin sounds used? Did all the participants listen to the same recordings? If so, does that mean that the viola, cello, and string bass players listened to violin sound?

One wonders how this adaptation compares with other heterogeneous materials in terms of performance results. Do the youngsters play with better intonation, better tone quality, better phrasing concepts, better bow control, or better rhythmic conception than other comparable beginners? This study does not provide this information. No experimental situation was established to obtain objective data of this nature. The reader is simply informed that a group of 12 fourth grade youngsters in Minnesota had a successful experience in a heterogeneous string class according to their instructor, Dr. Brunson, and other unidentified observers. The simple subjective statement that these youngsters were "superior" raises the question, "superior to whom?" and "superior in what way?"

The logic of the following remarks in the abstract (p. xi) escapes this reviewer: "there were no dropouts among the classes with which the...plan was utilized. All pupils learned to perform creditably the music materials and literature which made up the curriculum. There was a significant positive feeling among the students with regard to the activity." Based upon this evidence, says Brunson, "the conclusion of this dissertation is that this adaptation of the Suzuki-Kendall violin method for heterogeneous stringed instrument classes constitutes a contribution to string class pedagogy." There are--and have been--many heterogeneous string classes taught in which the above three conditions have prevailed; namely, no dropouts, pupils learning to perform creditably, and a positive feeling among the students. All of these conditions _might_ be directly related to the personality of the teacher rather than the quality of the material or be associated with any number of other variables.

The question which is still unanswered is, "Do the students who learn to play instruments via the Suzuki method perform in a superior way to students using other materials and other approaches?" Unfortunately, this dissertation brings us no closer to the answer to that question.

FOOTNOTE

[1] John D. Kendall, _Listen and Play_ (Evanston, Illinois: Summy Birchard Co., 1962).

Buford, Warren Bruce, Jr. An Analysis and Design of Humanities Programs in Secondary Education. University of North Carolina, 1967.
Order no. 68-6721.
Reviewed by Gaylord H. Farwell

Perhaps one of the more significant phenomena of the current curriculum reform movement has been the appearance of interdisciplinary humanities courses at the secondary level in American education. Little effort has been made to examine critically secondary humanities programs in order to determine whether, in fact, such programs are interdisciplinary, and whether purposes are significantly different from those found in traditional courses. Just as critical is the problem of determining the extent to which pupil behavior has changed as a result of experiences in humanities study.

Recognizing that educators must examine change to enhance their ability to make creative decisions about educational programs, Buford identified the following purposes for this study:

1. To analyze current programs in the Humanities at the secondary level to determine if differences in rationale for and definition of the humanities exist.

2. To design model instructional units for use in the instruction of humanities courses at the secondary level to demonstrate that themes provide the necessary structure for fusion of content.

3. To determine the change in pupil behavior of students enrolled in five experimental humanities courses in New Hanover County Public Schools, Wilmington, N.C., during the academic year, 1966-67:

    a. Did pupils at the secondary level, who completed a study of the humanities, make significant gains in Social Studies achievement?

    b. Did pupils at the secondary level, who completed a study of the humanities, make significant gains in Reading achievement?

    c. Did pupils at the secondary level, who completed a study of the humanities, make significant gains in their ability to think critically?

    d. Did pupils at the secondary level, who completed a study of humanities, make significant gains in theoretical values?

e. Did pupils at the secondary level, who completed a study of humanities, make significant gains in aesthetic values?

METHODS AND PROCEDURES

A rather selected review of the literature was utilized to acquire information about humanities programs in secondary level schools. An analytical taxonomy was developed by the author to determine the characteristics of eighty-four current hunanities programs. The taxonomy was constructed as follows:

TAXONOMY FOR THE ANALYSIS OF CURRENT PROGRAMS IN THE HUMANITIES

Classification	Criteria Used for Analysis	Frequency
Primary purposes and related objectives	1. Transmittal of cultural heritage	
	a. familiarity with great men and ideas	
	b. knowledge for its own sake	
	c. mastery of intellectual disciplines	
	2. Humanization of the individual	
	a. discovery of personal identity	
	b. self direction	
	c. problematic learning	
	d. unity of knowledge	
	e. humanizing process--becoming	
Content	1. Topical	
	a. Great Books	
	b. Encyclopedia Britannica Films	
	c. chronological survey	
	d. post-holing--cultural epochs	
	2. Thematic	
	a. persisting life ideas or concepts	
	b. persisting life problems	
	c. persisting roles of man	

Organization design	1. Large group................ 2. Small group .... 3. Independent study.......... 4. Combination of all three...
Instructional method	1. Lecture.................... 2. Group or committee work.... 3. Individualized learning.... 4. Combination of all three...
Teacher-pupil planning	....
Grouping	1. Homogeneous................ a. above average ability... b. average ability......... c. terminal students....... 2. Heterogeneous..............

An experimental humanities program based upon the humanization of the individual idea was developed; taught in five humanities classes (two-9th grade, one-10th, one-11th, and one-12th) enrolling a total of 141 heterogeneously grouped pupils in New Hanover County, Wilmington, N.C. schools. Teaching units were developed around content of persisting life issues, concepts, and/or themes. Instructional methods which would allow for student choice of learning goals, activities, materials, and evaluation, as well as for diagnostic methods of instruction, teacher-pupil planning, and ongoing analysis of teacher behavior, were provided for. Data relating to student achievement in this experimental course were collected utilizing the following instruments: a) Sequential Test of Educational Progress (Social Studies 2A and 3A); b) Sequential Test of Educational Progress (Reading 2A and 3A); c) Watson-Glaser Critical Thinking Appraisal; d & e) Allport-Vernon-Lindzey Study of Values, Third Edition. A *t* test of significance was used in analyzing the change in pupil behavior as measured by pre and posttesting utilizing the above instruments.

RESULTS AND CONCLUSIONS

The review of the literature revealed that the current humanities movement has been influenced significantly by five sources: The Commission of the Humanities; The John Hay Fellows program; the English Journal; The United States Office of Education; and Encyclopedia Britannica Films. Differing purposes for humanities programs may be classified broadly as (1) transmittal of cultural heritage, and (2) humanization of the individual. The primary objectives of the purpose, transmittal of cultural heritage, were found to be (1) valuing knowledge for its own sake, (2) mastery of intellectual disciplines, and (3) a need for knowing about great men and ideas of the past. The primary objectives of the purpose, humanization of the individual, were found to be (1) the need for the process of becoming, (2) the discovery of personal identity, (3) opportunity for students to engage in self direction, (4) the need for problematic learning, and (5) unity of knowledge.

The experimental humanities courses were successful in achieving significant changes in pupil behavior and achievement as measured by the above named instruments.

COMMENTS

The study, as originally conceived by Buford, was rather well done. This reviewer was rather disturbed by the number of mechanical errors in the dissertation, i.e.: typographical errors, syllabication, misspellings, and failure to underline sources in footnote and bibliographic entries.

There did not appear to be a serious effort to incorporate much music in this particular experimental program. Two sample units were included in the Appendix and if other units in the courses in this program were of like nature, this is a serious omission from the viewpoint of the music educator.

The author states, "The only national publication to have given extensive coverage to the humanities, the [English] Journal has published over twenty articles on the subject over the past ten years [1957-1967]. This does not seem to this reviewer to be an acceptable statement since a very cursory examination of the indices of the Music Educators Journal for the same period identified sixteen articles concerning humanities programs and probably a serious effort would serve to identify many more.

Buford's study should be of value to music educators and other teachers in acquiring a synoptic overview of existing humanities courses, and this reviewer is of the opinion that Buford's taxonomy would be useful for analyzing course descriptions.

The MENC motto, "Music for every child and every child for music," has been most difficult to implement in secondary schools with the prevalent patterns of utilizing time (teacher and pupil), facilities, and equipment; and the traditional course organization. As Wayne R. Jipson says in a recent Music Educators Journal, "We know it is possible to build a fine choir, orchestra, or band from fifteen percent of the student body of any high school of 400 students. But what of the other eighty-five percent?"[1] Humanities programs may well be an avenue by which the arts have the opportunity to make a contribution to the education of all pupils at the secondary level of education.

FOOTNOTE

[1] Wayne R. Jipson, "The Other Eighty-five Percent," Music Educators Journal, Vol. 55, No. 5 (1969), p. 35.

Clifford, Jacqueline Ann. The Interrelatedness of Dance with Music and Art Through a Study of Form as a Unifying Concept. Indiana University, 1967. Order No. 67-12,909.
Reviewed by Ira P. Schwarz

Most aestheticians agree that the fine arts share areas of commonality. It is also generally agreed upon that form, design, order, or composition constitute one area of interrelatedness. As an investigation of formal principles becomes more definitive, however, the degree of dissidence concerning gradations of interrelatedness increases proportionately. Bernard Berensen in Aesthetics and History has given voice to the widely held view that "Form and content are inseparable and even indistinguishable." Herein lies the problem and the crux of Jacqueline Ann Clifford's study.

Several definitions and assumptions of the meaning of form, ranging from extrinsic to intrinsic (artistic, aesthetic) values, are briefly discussed in the Introduction (Chapter I); and an attempt is made to circumscribe the word "form" as used in the study. The author makes a qualifying commitment concerning the use of the word that occasionally seems inconsistent in collation to subsequent material. At one point, Graham Collier's definition of form as "form structure," the visible aspect of the shape of the object (extrinsic value), is presented as a criterion. The elements of dance, music, and art, which do interrelate these arts, are presented at a later time as "ideal" components (intrinsic values). Although the ambiguous use of the term tends to momentarily confuse the reader, the duo-polarity of the concept does add weight to the author's thesis. The intrinsic value idea seems best expressed by the use of the term "theoretical construct" which is defined "as a synthesis of the commonalities of form structure discovered within the three arts."

Another equivocable term involves the use of the word "art." As used in the title it evidently refers to the plastic or visual arts; as defined in the limitations of the study, it denotes a broader context associating the collective fine arts. In addition, Webster's definition of "art" as "conscious use of skill" is used in conjunction with Suzanne K. Langer's statement which includes "the principles of artistic construction and aesthetic criticism or their application."

Chapter II is a review of the literature. There is a great deal of available material pertaining to the aesthetic relationship of art, music, and dance. Comprehensive related studies of these arts, on the other hand, are not as abundant; and most existing studies aver possible relationships of dance with other arts rather than a quid pro quo analogy. Some exceptions to this include J. H. Hanlon's Comparative Study of the Principles of Organic Form in Painting, Drama, and Modern Dance; Kaliope Candianides' Modern Dance for Drama and Music Majors; and Interpreting

Music Through Movement by Louise Humphreys and Jerrold Ross. In a summary of this chapter the author states:

> In the review of literature concerned with related studies, several studies were cited which dealt with the relatedness of certain arts, such as dance with music, dance with drama and dance with art. No study was found which attempted to show the relatedness of dance with both music and art.

Form as structure is treated in Chapter III, and a new suppletory determinate of form is expressed:

> In this study of form in art, music, and dance, the chief concern is with the process, not with the product. Form refers to the manner of ordering interdependent elements of the extent that an organized whole results.

To establish a relationship within the theoretical construct of dance, music, and the plastic arts, the elements of line, rhythm, unity, and variety have been selected as common denominators. This particular selection, although defensible, creates additional communication problems which stem, again, from semantics. Not all aestheticians agree that the forenamed "elements" are interrelated to dance, music, and art, or indeed, that they are elements. Variety and unity, for example, are frequently referred to as principles; rhythm is often treated as an element in time art but as a principle in space art; and line is generally considered as an element in space art but as a principle in time art.

Chapters IV, V, and VI, respectively, treat the study of form in art (visual design), music, and dance through an investigation of line, rhythm, unity, and variety.

The analysis of the four elements of form in visual design are handled with care and fulfillment. The use of line and unity as visual elements are illustrated by a number of delineated sketches. The presentation of rhythm as a visual element is meticulously developed. The components of the elements of rhythm are established as:

1. Recurrence or repetition
2. Sequence: continuity or progression
3. Rhythmic proportion
4. Movement
5. Rhythmic pattern

The components of variety are designated as the "rearrangement of the components of line, rhythm, and unity."

The success of Clifford's treatment of the elements as used in the space arts may have contributed to the difficulty in translating their functional qualities to a temporal art. The use of melody "as representative of the element of line" is not, in the reviewer's opinion, satisfactorily resolved. This oversimplification is partially refuted by the author as well: In the summary of this chapter, the components of line (melody) are designated as tone, dimension, register, direction, progression, and sections, attributes which are generally considered to be more comprehensive than the denotation contained within the traditional definition of melody.

The author's intentions are clarified somewhat in Chapter VI, "A Study of Form in Dance," by the statement:

> A line in modern dance is similar to a line in music, in that the movement may be representative of a phrase, a statement or a melody. If the movement is extensive in length, it may be referred to as the theme. The dance line may be binary form (two-part form) or ternary form (three-part form). As a melody is comprised of parts, as ABA, so may movements in dance be performed as ABA.

Perhaps the expression "melodic structure" would be more explicit of the intention than the word "melody."

This chapter has been limited to a study of modern dance and is a particularly well documented effort. It is pointed out, postulatively, that music is a time art; visual art is a space art; and dance is a combined art which utilizes both time and space. Clifford's deductions concerning one aspect of the temporal qualities of music and dance, however, are contestable:

> A modern dance is a temporary art, unlike music and visual design, because it exists only in the period of its performance.... Music, as it is scored, may be studied according to the manuscript, or as it is heard in recorded sound. There is a permanency in visual art and music, but dance exists only in its period of performance.

Of course, music, too, exists only in its period of performance. The printed notes of a score are visual indications of sound not unlike the visual indications of movement as used in the labanotation system. Likewise, audio recording of sound is comparable to visual recording of movement.

Chapter VII is concerned with a synthesis of the three arts as set forth in the three preceding chapters. This section, although pertinent to the narrative, is designed, essentially, as an instructional unit for the dancer and dance teacher.

Besides a summary of the findings and their conclusions, the final chapter (VIII) lists a number of noteworthy recommendations. In essence, the need for consumer oriented courses in the arts is stressed. These courses should encompass all levels of learning from preschool to adult groupings which would promote an understanding of the arts through a study of their relationships.

COMMENTS

Music may be described as organized sound. In this broad sense, there is a workable analogy of music and painting (time art and space art). The art of the composer is contained within a pre-determined space limitation. The large geometric patterns of the painter are comparable to the large temporal patterns of the composer. Color, line, orchestration, rhythm, tempo, dynamics are comparable aesthetic usages in both mediums. Dance, as a combined art, contains numerous interrelationships with both music and the plastic arts. As tempting as the utilization of these parallelisms are, it is also important that the basic _differences_ are not ignored.

As a visual art, painting may be observed from different points of view; whereas, the audible arts have no point of view. Music exists in its momentary totality or not at all. The listener cannot experience a composition at his leisure, as he may a painting, but must listen to it within the time boundaries prescribed by the composer. Dance contains some of the components inherent in both the visual and auditory arts. It does permit a point of view as in the time arts; and it is also contained within a specified time limit. In this context, music and dance disintegrate during performance; they continue to exist only in the memory of the observer. Dance, as a combined art, as a synthesis of the spacial and temporal components of other arts, contains many areas of commonality with other arts, but a valid synthesis creates an entity that is greater than the sum of its parts, thereby establishing areas of contradistinction with its inherited derivatives.

In recent years, the addition to the literature of works dealing with the relationship, correlationship, and interrelationship of the fine arts has been considerable. The author of this study, an experienced dancer and physical educator, reflects a prevalent attitude of her profession in seeking new and consequential aesthetic association with other art disciplines. The relationship between dance and music, although a traditional one, has received little attention from musicians. That the bulk of contemporary material affiliating music and movement has been launched by dancers and physical educators is perhaps an indictment of the aesthetic provincialism of the music education profession. Clifford's investigation of _The Interrelatedness of Dance with Music and Art Through A Study of Form as a Unifying Concept_, although not flawless, is a significant contribution and should be of particular interest and value to dance, music, and humanities teachers. The work is scholarly but not pedantic; practical but not prosaic. Several expository problems may have been avoided by inverting the title to "The Conception of Form Through Its Interrelationship with Dance, Music, and Art." But perhaps the invertibility of the title is an indication of the success of the study.

Clothier, Richard Iven. Factors Influencing Freshmen with High School Band Experience to Elect or Not to Elect Band Membership at Five Liberal Arts Colleges in Iowa. Colorado State College, Ed.D., 1967. Order No. 67-13,671.

and

McClarty, Jackie Lee. An Investigation to Determine the Reasons Former High School Band Members Elect to Participate or Not to Participate in Band Upon Entering the University of Montana. University of Montana, Ed.D., 1968. Order No. 68-14,524.

Reviewed by George A. Conrey

Recently Clothier and McClarty submitted dissertations to major institutions which devoted considerable effort to a similar problem--the attrition of band students who enter college with band experience and are not majoring in music. Both studies investigated groups of students who had elected to continue their band experience as well as those who had decided to drop band in college.

Clothier dealt with freshmen entering five liberal arts colleges in Iowa--Coe, Cornell, Grayson, Simpson, and William Penn--while McClarty limited his discussion to a comparable group entering the University of Montana. Both used questionnaire techniques which produced a high percentage of return, possibly because all students polled were students in a college or university community where follow-up techniques (telephone, personal contact, etc.) could assure such a return.

At the University of Montana, 12 out of a potential group of 183 elected to continue band (6.56%). In Iowa, a total of 90 out of 282 eligibles elected band (31.9%) with a range of 27 to 40.3 percent for individual colleges.

Liberal arts college freshmen who elected band tended to do so if they: (1) participated in their high school band during their senior year; (2) spent the greatest amount of time practicing their instrument during high school years; (3) participated in state or district solo contests during high school; (4) participated in small ensembles in high school; (5) felt that they were among the better players in their high school band; and (6) owned their instrument.

The comparable group at the University of Montana did so because they: (1) anticipated enjoying the University of Montana Band musical and social activities; (2) highly enjoyed the instrument they played in the high school band and desired further skill development on that instrument; (3) had a very satisfying total high school band experience;

(4) had a favorable pre-conceived image of the University of Montana Band; (5) decided while still in high school to participate in the University of Montana Band; and (6) had received academic credit for participating in high school band.

Those students who decided not to participate in band in the Iowa group felt: (1) they did not intend to play their instrument in any way during college; (2) that they would seldom play their instrument after high school; (3) academic pressures precluded their participation in college band.

At the University of Montana, the non-participant group voiced: (1) non-musical demands and/or conflicts prevented their electing band; (2) a loss of interest in musical participation in general or had greater interest in non-musical courses or organizations; (3) a question regarding their ability to meet the band entrance requirements; (4) apprehension regarding auditions for the band; (5) a decision not to participate while still in high school; and (6) an opinion that more credit for band should be given.

Though both studies covered roughly the same ground, different positive and negative conclusions were reached. The areas of coincidence possibly demonstrate the basic problem of attrition at the college freshman level--the die is cast by and for the student while still in high school.

Both projects were obviously delimited in order to "bring them off." The utility of each is limited on several counts: (1) where small samples are involved, extrapolation of data for use elsewhere is extremely dangerous (McClarty's "12" is quite suspect here); (2) since a comparison of the results showed wide differences, a study of noted band programs might produce even further and/or different reasons for the election or non-elections of college band (no outstanding band program was included in either study); and (3) further study is indicated to reflect the new campus climate of the 70's.

Despite the above weaknesses, we college music people at least know that students make up their minds regarding college band while in high school! With this fact well in mind, we have some guidance regarding where to go and what to do to assure a continuation of the band program at the college level.

Connor. Aikin O. The Perception of Musical Intervals: The Theory of Property Arrays. University of the Pacific, Ed.D., 1967. Order No. 67-17,374.
Reviewed by Thomas S. Brown

Dr. Connor has devised an original theory to account for the aural identification of the harmonic intervals contained within an octave. The Theory of Property Arrays, as the theory is called, describes each interval as a gestalt made up of a unique configuration of certain properties. These properties are held to be contingent upon the effect of the interval as a whole, not upon perception of its constituent tones. A model, stemming from information theory, has been drawn up in which each of four properties contributes a "bit" of information on each interval. According to which of the properties are present in a given interval, that interval may be differentiated from any of the other eleven intervals.

Connor proposes the following as properties which either are or are not included in the description of an interval: (1) Consonance. This is defined according to 18th century harmonic usage. (2) Perfect. Connor defines this as "that property of an interval which prohibits its expansion or contraction. For example, a minor third may be expanded to become a major third and still maintain its 'thirdness,' but a perfect fifth which becomes a tritone when contracted and a minor sixth when expanded, loses its essential 'fifthness'." (3) Stability. When the lower tone of an interval is more "important" or receives more emphasis than the upper, the interval is considered stable. Hindemith's The Craft of Musical Composition is cited as a source which suggests this property. (4) Majorness. The preceding three properties were found to be insufficient to provide a unique formula for each of the twelve intervals. Fours pairs of intervals remained whose members had identical property formulas. To provide for complete differentiation, therefore, a fourth property was added to the theory. This property is termed "majorness" and is applied to the larger member of each pair.

Connor displays the array of properties for each of the twelve intervals in the following table in which a "1" indicates the presence of a property and a "0" the absence of it.

Interval	Consonance	Perfect	Stability	Majorness
min. 2	0	0	0	0
maj. 2	0	0	0	1
min. 3	1	0	1	0
maj. 3	1	0	1	1
per. 4	1	1	0	0
tritone	0	1	0	0
per. 5	1	1	1	0
min. 6	1	0	0	0
maj. 6	1	0	0	1
min. 7	0	0	1	0
maj. 7	0	0	1	1
per. 8	1	1	1	1

DATA COLLECTION

A test of harmonic interval recognition, consisting of intervals played on a piano, was administered to sixty-two undergraduate music majors. The raw data took the form of the frequency with which each interval was correctly identified and the frequency with which each interval was confused with each of the other intervals, thus permitting comparisons of error frequencies among all intervals as well as among certain groups of them. Some evidence to support the validity of the test was provided by a comparison which indicated that discrimination was not affected by the pitch level of the stimuli, but was reduced in the second half of the test, presumably because of fatigue. The logical relationship of the Theory of Property Arrays to research findings in the fields of perceptual psychology, music psychology, and cybernetics was shown by an extensive review of literature in these fields.

EVALUATION OF INTERVAL PERCEPTION THEORIES

In addition to tests of his own theory, Connor uses his data to test hypotheses related to the theories of interval perception of Watt, Seashore, and Mursell. According to the Tonal Distance Theory of Watt, Connor reasons, the probability of confusing any given interval with an interval a half-step larger should equal the probability of confusing that interval with one a half-step smaller. When this hypothesis was tested against the data, errors were not found to be equally distributed on either side of the correct interval, thus providing no support for Watt's theory. Seashore reports a rank order of the twelve intervals which was obtained by rating them according to certain criteria for consonance. Connor infers that, according to Seashore, the ordinal position of an interval should vary inversely with the difficulty of identifying it. The correspondence of the Seashore order, therefore, and the ranking of the intervals arranged in order of their total identification errors was determined by means of a "rank-difference correlation coefficient." The relationship was not statistically significant, indicating that Seashore's theory does not apply to interval identification. Mursell's theory holds that the effect of harmonic intervals is directly related to the simplicity of the frequency ratio of the constituent tones. The twelve intervals therefore, may be ranked in order of their relationship to each other according to the simplicity of their ratios. Connor made such a ranking and, as was done in the case of Seashore's theory, correlated it with identification error ranking. This correlation was also nonsignificant. Connor concludes that the results of the foregoing tests indicate that the theories of Watt, Seashore, and Mursell do not account for errors in recognition.

Perceptual similarity of intervals is explained by the Theory of Property Arrays as being attributable to similar property makeups; two intervals are likely to sound alike to the extent that they share common properties. The term "primary group" is used to designate a set of intervals which share three of the four postulated properties. The theory leads to the prediction that the intervals within any primary group are more likely to be confused with each other than with any interval outside of their primary group. Goodness of fit tests were made on the data which support this prediction. The distribution of errors over all intervals was accounted for by the theory well beyond that likely to have occurred by chance. Separate tests of individual intervals also supported the prediction except in the cases of the tritone and the minor sixth. These two intervals tended to be confused with intervals outside their respective primary groups.

The Theory of Property Arrays could make contributions to several areas. When applied to educational practices, it might provide a basis for sequencing programed instruction materials. Teaching strategies, stemming from the theory, might accelerate interval recognition by identifying single weaknesses responsible for a student's inability to identify a number of different intervals. Connor also suggests applications of the theory to musical analysis.

CRITIQUE

The Theory of Property Arrays is an ingenious approach to an old problem, the aural identification of intervals. Connor's contention that the data contained in the sound of a harmonic interval can be analyzed by the application of information theory principles deserves serious consideration. In its present form, however, the theory has one crippling weakness: it is untestable. Basic to the viability of the theory are the properties whose presence or absence form the unique formula for each interval. Despite their importance, these properties are quite ill-defined and arbitrary. Connor states that they "are meant as 'trial' properties, tentatively suggested." As such, they are hypothetical constructs which are not subject to manipulation or observation by an investigator. Without the possibility of experimental control, rigorous testing or practical application of the theory is impossible. After all, a pattern discovered in any set of data is subject to numerous interpretations. The measure of any single interpretation is its ability to predict what will happen when certain quantities are varied. In its present stage, the Theory of Property Arrays is not amenable to such empirical confirmation.

A certain looseness seemed to characterize the logic underlying several of the procedures reported in the study. Under the heading Reliability, for example, is reported a comparison of the total error frequencies occurring in similar sections of the interval recognition test. The x^2 test that was applied indicates that, taken as a group, the subjects made an approximately equal number of errors in each section. Such information gives no indication of the consistency or stability of the test; to use the term "reliability" in this connection is misleading, even though the author clearly describes the procedure that was followed.

Similar license is taken in the test of the Seashore theory. As Connor acknowledges, Seashore's study deals only with what Seashore believed to be the components of consonance. No evidence is cited to indicate that identification difficulty of intervals and their degree of consonance is related; nevertheless, the inference is made "that ambiguity of the interval stimulus is in inverse proportion to the degree of consonance of the interval." Seashore's theory is in no way discredited by the fact that the test of the hypothesis, based upon this unsupported assumption, indicated that identification errors did not increase with increased dissonance. The reviewer can find no justification, therefore, for Connor's statement that such evidence tends to refute the Seashore theory.[1]

A final critical note should be made of a number of relatively small, but disconcerting, inaccuracies and omissions. The information cited by the foot notes on pages 88 and 89 cannot be found at these addresses. One key footnote, naming an entire book, employs passim in lieu of a specific page number. Several tables lacked labels for the rows and columns, and the classes of variables could only be identified by a study of the explanation in the accompanying text.[2] In the case of Table VI, the treatment of data was not sufficiently explained to enable the reviewer to recalculate the tabled values.

Such deficiencies do not detract from the admirable originality of the principal idea expressed in the thesis, however. The construction and application of a new theory of musical perception is an exceptionally potent, not to say ambitious, topic for a dissertation in music education--as any perusal of dissertation titles in our field will quickly reveal. Certainly, the Theory of Property Arrays merits further development by experimental music theorists.

FOOTNOTES

[1] "The results of testing experimental hypotheses drawn from the theories of Seashore, Watt and Mursell compared with the results of testing experimental hypotheses drawn from the Theory of Property Arrays tend to refute the former theories and to support the latter." Connor, p. 96.

[2] See pp. 71, 81, and 92.

Costanza, Anthony P. The Development and Evaluation of Programed Instruction in Score Reading Skills. Pennsylvania State University, Ed.D., 1968. Order No. 69-14,502.
Reviewed by Michael L. Mark

PURPOSE

The purpose of this study was to develop and evaluate the effectiveness of a programed course of study in score reading skills. Costanza lists the following questions which he attempts to answer in his study.

1. Can materials utilizing programed instruction techniques be developed for effectively teaching melodic and harmonic score reading skills?
2. Will melodic and harmonic score reading skills, as measured by the Score Reading Test, be significantly increased by a Self-Instructional Program in Score Reading?

REVIEW OF THE LITERATURE

Chapter II, "review of related literature," discusses four areas of study which are related to the training of conductors: (1) the adequacy of conducting training, (2) measures of auditory-visual discrimination, (3) research in score reading ability, and (4) programed instruction in aural-visual perception.

Many authorities agree that certain score reading skills are not developed by means of traditional training. Ear training is considered to be one of the most central studies of the future conductor (including the future school band and orchestra director):

> The 'ear,' or the ability to hear relationships, is the most vital skill in the understanding of music. Translating symbol into sound is an absolute goal, and as far as the musical mind is concerned, the ability to 'think' the sound is the important consideration.[1]

Costanza briefly describes several standardized measures of auditory-visual discrimination, but relates only one such test to his study. Quoting Meice's study, he states that according to the results of the Aliferis-Stecklein Music Achievement Test, college theory courses are not accomplishing their goals.[2]

The literature concerning score reading ability is confined to materials which discuss the ability of musicians to detect errors in the performance of music while using a printed score.

The section dealing with programed instruction in aural-visual perception describes various approaches which have been developed to use programed instruction for theory and ear training; these attempts are limited in scope and restricted to the use of the piano for aural examples.

DESIGN OF THE STUDY

Citing Coulson and Cogswell,[3] Costanza emphasizes the point that comparative studies involving traditional and programed instruction are impractical. This study, therefore, makes no attempt at comparison between the results of programed and traditional instruction in score reading techniques. In Phase I of the study, the programed materials were assembled, pilot tested and revised six times, and judged ready for Phase II. Phase II consisted of an evaluation of the Self-Instructional Program in Score Reading (the materials assembled in Phase I). The subjects were pretested to determine their score reading skills with a measure designed for this study, the Score Reading Test. Then they were exposed to the programed instruction developed to increase score reading skills; finally, the Score Reading Test was again administered as a posttest.

Sixteen subjects were used for the study, all music and music education majors at The Pennsylvania State University. Six of them participated in the pilot studies and ten in the evaluation of the Self-Instructional Program in Score Reading (Phase II). All subjects had completed the required theory and ear training courses.

The behavioral objective of the Self-Instructional Program in Score Reading was to develop the ability to detect whether or not the performance of a musical excerpt conformed to the printed score. This was done by requiring the subjects to follow a printed score while listening to a performance of the music.

The Self-Instructional Program in Score Reading evolved from a length of 125 frames into its final form of 320 frames during the period of its pilot testing. All of the material was recorded by either a brass quartet (two trumpets, two trombones) or a clarinet quartet (two sopranos, alto, and bass). Many of the musical excerpts were taken from Bach chorales, and the rest from music which is part of the high school repertoire. Each frame (written on a card with the musical example on both sides and the correct answer on only one side) consists of a musical example of a few measures duration, written in four-part harmony. Each frame provides a "focus," e.g., soprano, alto, tenor, bass, or various combinations, upon which the subject focuses his attention. Three types of directions were given for the various frames: specify whether the performed musical example is the same as the written score; identify which of two versions of a written score is the same as the performed example; and identify the specific note which was performed incorrectly. Two types of errors were utilized. One was the "clinker," consisting of an obvious mistake caused by the addition or omission of an accidental. This was used early in the program to help the subjects isolate the line they were to follow, and because this type of error is easy to detect. The other type of error was the doubling error, in which a note of the chord was changed so that the wrong note was doubled.

The six pilot studies, each of which used one subject, served to refine the measure to the point where, in the sixth study, there were only 15 incorrect responses out of 320 frames with no grouping or errors in any section of the program. The score on the posttest was over 50 percent higher than on the pretest.

The pretest (the Score Reading Test) was also devised by Costanza. It consists of musical examples chosen from contemporary literature, none of which was used in the Self-Instructional Program.

Phase II consisted of the evaluation of the Self-Instructional Program. Each subject was exposed to the programed materials during 16 sessions. The subjects came to the listening room individually, found the correct tape for that particular session set up on the tape deck and ready to be played, and found the printed part of the program waiting for him. Each session required from 30 to 45 minutes to complete.

Each subject in Phase II was pretested with the Score Reading Test and the melodic and harmonic sections of the Aliferis Music Achievement Test (which was administered to the subjects as a group). Following the pretest, the Phase II subjects spent eight weeks completing the Self-Instructional Program; after this, they were administered a posttest (the pretest) to mreasure the effectiveness of the Self-Instructional Program in developing score reading skills. One and one-half weeks later the Score Reading Test was administered again in order to obtain a reliability coefficient. The reliability of the Aliferis Music Achievement Test has been established by its author, and it was, therefore, unnecessary to administer it a third time. The reliability coefficient for the Score Reading Test, arrived at by the test-retest procedure, was .72, which Costanza considers impressive due to the limited proportions of the test and the small number of subjects.

SUMMARY AND CONCLUSIONS

The results of the study are:

1. There was a significant difference between the pretest and posttest scores on the Score Reading Test. The t value which was computed was 5.305, which is significant beyond the .001 level.

2. There was a significant difference between the pretest and the second posttest scores as measured by the Score Reading Test. The t value which was computed was 9.994, significant beyond the .001 level.

3. There was no significant difference between the first and second posttest (reliability administration) scores.

4. There was a mean error rate of 6.75 percent of the incorrect responses, which is considered acceptable in programed instruction.

5. There were significant relationships between scores as measured by the pretest and the posttests of the Score Reading Test.

6. There were significant relationships between scores as measured by the pretest of the Score Reading Test and the pretest of the melodic and harmonic sections of the Aliferis Music Achievement Test.

CONCLUSIONS

1. Melodic and harmonic score reading skills as measured by the Score Reading Test can be effectively taught by programed instruction utilizing aural and visual materials.

2. The fact that different musical examples were used in the Score Reading Test than in the Self-Instructional Program indicates that the melodic and harmonic score reading skills developed are transferable and that the skills developed by the programed instruction in this study could be applicable to other musical situations involving these skills.

3. The Score Reading Test is an effective instrument for measuring melodic and harmonic score reading skills and, as the examples are performed by instrumental ensembles, the test is unique in measuring these skills.

4. Reactions of the subjects indicated that the programed instruction materials were helpful; subjects expressed a desire to work with additional materials of the type developed for the study.

CRITIQUE

Costanza's study is a valuable one which adds to the growing body of literature testifying to the validity of programed instruction. Despite the value of the study, however, it has deficiencies. The population consisted of only 16 subjects, six of whom were used in the pilot studies. Only ten participated in the actual study. It is regrettable that a larger group could not have been used. Also, the subjects used in the pilot studies were not all used at one time, but one at a time in order to refine the measure by testing it six times. No doubt Costanza was limited by the number of subjects available who were able to meet his requirement of theory courses completed, but this tends to decrease the reliability of the study.

One wonders why Costanza chose to use only a mixed brass quartet and a mixed clarinet quartet. His point of getting away from the traditional use of the piano for ear training is well taken, but if he wished to demonstrate the usefulness of orchestral instruments for ear training, he might better have used other combinations in addition to the two quartets. When the ear becomes accustomed to the sounds of the two ensembles, it has little difficulty following inner voices, and in fact, finds it easier than listening to a piano. Combining brass and woodwinds, adding strings, and using quartets of like instruments would have added a dimension of realism to the study which seems to be lacking because of the two ensembles used.

The manner of establishing content validity of the Score Reading Test is questionable. Costanza selected different material for the test than for the Self-Instructional Program, and established its face validity by stating that it was devised and constructed with the objectives of the programed instruction in mind. He than determined its content validity by submitting the excerpts to three recognized conductors and asking them if the examples were representative of the music encountered in the teaching/conducting situation, and whether the examples would require the type of skills needed for the teacher/conductor to be effective. The content validity of the measure was established by the conductors' unanimous positive agreement.

Little is said about the actual music used, and only a few sample frames are shown. For a dissertation involving the development of either an evaluative device or programed materials, it is unfortunate that all such materials are not included in the appendix. But, from what was displayed, it appears that there is little, if any, departure from the rules of traditional four-voice harmonic and melodic scoring. Although music was taken from band festival lists, it was arranged and scored for the two quartets in traditional chorale style. Thus, although contemporary music was used, it was not presented in a contemporary style, and, therefore, was not actually "representative of the music encountered in the everyday situation of the school conductor . . ."

Finally, one might question whether the most important aspect of the conductor's score reading ability is error recognition. Some of the authors quoted in Chapter II state that this is so. Costanza implies strongly that this skill is part of the goal of theory training. Obviously, one who has a well-trained ear will be able to recognize mistakes of the sort used in this study, but there is a question of whether the ear becomes well trained as a result of learning to recognize errors, or whether the ear learns to recognize errors as a result of being well trained. Either or both might be true, and this is a factor which should have received consideration.

Programed instruction has become a reality of contemporary education, but too many music educators either are not prepared to make use of it or else do not have suitable programed materials available. It is likely that a study such as Costanza's would be of interest to many theory teachers who are dissatisfied with traditional methods. The study is well planned and executed, and Costanza exhibits a thorough knowledge of programed learning construction.

FOOTNOTES

[1] E. D. Thompson, "A Philosophy of Teaching Music Theory," Music Educators Journal, L (June-July, 1964), p. 72.

[2] Thomas E. Neice, "An Investigation of the Relationships of Selected Factors in the Preparation of Music Education Majors to Musical Achievement," (unpublished doctoral dissertation, University of Illinois, 1964), Dissertation Abstracts, XXV (February, 1965), pp. 4743-44.

[3] John E. Coulson and John F. Cogswell, "Effects of Individualized Instruction on Testing," Journal of Educational Measurement, II (1965), p. 63.

Cotter, Vance Warren. Effects of Music on Mentally Retarded Girls' Performance of Manual Tasks, University of Kansas, Ph.D., 1969.
Order No. 69-21,508.
Reviewed by Clifford K. Madsen

PURPOSE

This study sought to determine the effects of planned presentation of recorded music on the work rate of 16 retarded girls. Specifically, the purpose of the experimental design was to evaluate work rate as a function of (a) contingent and noncontingent music presentation, (b) music and no-music conditions, (c) number of sessions the study operated, and (d) any interactions of the above factors.

The sixteen subjects were matched on work performance and paired to form eight teams, each team having one member receiving contingent music presentation and one member receiving noncontingent music presentation. The team member receiving noncontingent music presentation actually received an identical presentation to that received by the other member of the team; however, the presentation of recorded music was structured such that the contingent music presentation team member's completion of each work task (each task requiring from 7 to 10 seconds to complete) immediately provided fifteen seconds of recorded music (through headphones) to both team members.

Subjects worked throughout the 75-minute work session during which recorded music was either available or not available to the subjects (alternating 15 minutes on/off). Each subject participated in ten 75-minute work sessions in which 15 minute on/off periods were reversed daily.

CONCLUSIONS

The results of this study form the basis for the following conclusions:

1. Productivity in the work situation was improved by music conditions. In contrast, the absence of music impeded production.

2. Productivity during contingent music improved more compared to silence than did noncontingent music compared to silence.

3. Productivity improved immediately under contingent music conditions and was relatively stable and consistent over time.

4. Productivity initially was lower during noncontingent music conditions, increased over the early sessions, and stablized during later sessions.

5. Group singing or movement to rhythms of music did not decrease production under contingent music conditions. In fact, production increased when singing or movement occurred during the work situation.

6. Contingent music provided conditions that facilitated appropriate social interaction. Deviant behaviors decreased or did not occur.

7. Instrumentation of music presentation on a contingent basis was effective. It could be adapted by sheltered workshops and industry in cases of repetitive types of work.

DISCUSSION

Findings from this study indicate the efficacy of reinforcement techniques to influence human behavior. Such findings imply the need for experimentation and research using music as a reinforcer (reward) which is presented contingently upon the performance of specific classes of behavior. An example for school application might consist of rewarding a student for correct academic or social responses with a stated period of music listening.

Dr. Cotter's study is an excellent example of the use of music as a reinforcer in an operant learning procedure. The rationale, experimental procedures, statistical analyses, and discussions are clear, timely, and informative. This study deserves careful reading and thoughtful reflection as a model concerning operant procedures for researchers in music education.

Crouch, Rebekah. The Contributions of Adolphe Sax to the Wind Band.
Florida State University, Ph.D., 1968. Order No. 69-587.
Reviewed by Lewis B. Hilton

Dr. Crouch introduces her work by pointing out that although "Adolphe Sax represents an important period (sic) in the development of the wind band, . . . there is no study which investigates his inventions in relation to the wind band."[1] Most accounts acknowledge his invention of the saxophone but then let the matter drop. This is probably due to the fact that of the many instruments invented or developed by Sax, including the saxhorns, the saxtrombas, and the saxtubas, none is in use today, at least in the United States, except the saxophone. It is Dr. Crouch's contention that Sax's contributions to the conceptions of a homogeneous instrumentation and the resulting sound of the wind band is of great musical significance. She quotes Arthur Clappé to substantiate her point:

> Before Sax entered the field as an instrument maker, wind bands . . . presented a weird aspect, and produced a most wonderfully complex, often inharmonious not to say discordant agglomeration, of sound . . . the wind band was a heterogeneous mass of badly assorted sound mediums . . . all calculated for effect of 'sound and fury, signifying nothing but noise' . . . Sax evolved order out of this chaos. . . .[2]

Dr. Crouch's investigation of the contributions of Sax is organized in the following manner: (1) an analysis and description of wind band instrumentation before Sax, (2) Sax's influence on French Army bands, and (3) the instruments themselves which Sax developed for the use of bands, including members of the woodwind and brass families and, of course, the saxophone.

In her description of the status of wind bands in the early nineteenth century, prior to Sax, Dr. Crouch emphasizes the strong influence of the French Army bands, just after the revolution, on bands of other European countries. After listing the standard instrumentation of the French Cavalry bands, the French Consular and Imperial Guard bands, and the bands of the Imperial Infantry at the time of Napoleon Bonaparte, she gives a rather detailed analysis of the state of each of the families of instruments in the Napoleonic bands and elsewhere, emphasizing the fact that neither the woodwinds nor the brasses had "reached the sophisticated stages in their mechanical development which permitted them to be played with the accuracy of tone and intonation enjoyed in a later era."[3] The nineteenth century writer, Oscar Comettant, summarized the condition of bands before Sax and commented as follows:

> 1. In general, the melodic part (sic), confined almost to woodwind instruments were not distinctly or keenly heard. The middle notes and certainly the lower notes of the woodwind instruments were entirely covered up by the strident sounds of the brass instruments. . . . 2. The intermediate parts occupied by the trumpets which were supposed to fill in the alto and tenor parts in the ensemble were always played in a very incomplete manner. One can easily understand the reason when hearing the considerable gaps in the scale of the trumpet used. 3. Finally, the bass parts, if confined to bassoons, were not sufficiently resonant over the more dominant piercing instruments, and if replaced by ophicleides, the sonority of the latter, blended very badly with woodwind instruments. . . .[4]

A portion of the dissertation is devoted to the triumphs of Adolphe Sax, who arrived on the scene in Paris in 1842 to establish his instrumental workshop. Praise from Hector Berlioz helped establish Sax as a leading instrument maker, which, naturally enough, incurred the wrath and envy of the older, more established, and conservative wind instrument makers. Sax, however, continued to thrive. Perhaps the turning point in his career was the triumph of his instrumentation over that of his competitors at the famous contest of the Champs de Mars in 1845. It should be noted that French military bands had lost their European supremacy and that much official concern was being expressed. Sax's recommendations for improvement were considered to be revolutionary and deserving of consideration.

Accordingly, the Commission of French military music decided that the only way to judge fairly the conflicting claims was to hold an open-air contest between a band composed of an instrumentation recommended by Carafa, Sax's chief antagonist in the matter, and one instrumentated according to Sax's specifications. One can only note with admiration the eminently sensible, democratic Frenchness of the method of decision making.

Needless to say, our hero carried off the honors, and his band, with the following instrumentation, was judged the victor and most likely to restore French military music to its former position of eminence:

1 piccolo
1 E^b clarinet
6 B^b clarinets
1 bass clarinet
2 valved cornets
2 E^b soprano saxhorns
4 B^b soprano saxhorns
4 E^b alto saxhorns

4 B^b bass saxhorns
3 E^b contrabass saxhorns
2 valved trombones
2 ordinary trombones
2 ophicleides
4 percussion

The remainder of the dissertation is devoted to a rather detailed description and analysis of the woodwind and brass instrument innovations brought about by Adolphe Sax. Basic to his continuing success was his method of manufacture, which differed from the methods used by his competitors in two important respects. First, and of greatest significance, was the acoustical principle upon which his instrument designs were based. Called the law of proportions, it is stated that "the timbre of an instrument is determined by the proportion of the column of air rather than by the substance from which the instrument is made."[5] Second, Sax designed and made all parts of each instrument, contrary to the practice of his competitors who specialized in the making of certain parts or sections of instruments.

Among the most significant of Sax's innovations discussed are his improvement of the bass clarinet, his invention of the contrabass clarinet, his adaptations of the principles of Boehm to the soprano clarinet, and his experimentation with brass instruments, including the valve mechanism consisting of six independent, ascending valves. Although the brass innovations seem less successful in retrospect than those in the woodwind family, Bessaraboff notes that ". . . the great reform, begun by others but finally developed to a practical stage by Adolphe Sax, consisted of the elevation of the lowly bugle, a three-octave instrument, to a position of predominance in the brass world."[6]

The final section of the dissertation relates in detail the invention and development of the saxophone, stressing Sax's predilection for complete families of instruments of each type, from the sopranino to the contrabass, somewhat reminiscent of the Renaissance ideal of consorts of instruments.

Although Dr. Crouch discloses no information not previously known to historians of wind instruments, the value of her dissertation lies in the collation of materials hitherto unavailable in one convenient source.

FOOTNOTES

[1] Crouch, p. 1.

[2] Arthur A. Clappe, The Wind Band and Its Instruments (New York: Henry Holt and Company, 1911), p. 197. Crouch, p. 3.

[3] Crouch, p. 16.

[4] Oscar Comettant, Histoire d'un inventeur au dix-neuviene siecle, Adolphe Sax (Paris: Paguerre, Libraire-Editeur, 1860), pp. 83-84. Crouch, p. 40.

[5] Comettant, op. cit., p. 28. Crouch, pp. 68-69.

[6] Nicholas Bessaraboff, Ancient European Musical Instruments (New York: October House, 1941), p. 141. Crouch, p. 95.

Dawson, Norman Earle. A Study of the Roles of Music Supervisors in Selected School Districts. University of Southern California, Ed.D., 1968. Order No. 69-6487.
Reviewed by Robert L. Cowden

PURPOSE

The purpose of the study was to investigate the roles of music supervisors as conceived by both the music supervisors and the superintendents in school systems which have developed excellent programs of music education and to compare those role concepts with those of the music supervisors and superintendents in the general population in order to establish the essential characteristics of the roles which may lead to successful programs.

QUESTIONS

In order to establish the essential characteristic of the roles of the music supervisor, answers to questions in the following areas were sought:

1. amount of communication between supervisor and superintendent
2. music budget
3. control of expenditures
4. recruiting applicants
5. responsibility for curriculum development
6. determining and solving problems
7. amount of knowledge superintendent should possess regarding the music program
8. determining adequacy of materials and equipment
9. developing competencies in music teachers
10. initiating experimental programs

SUBJECTS

Subjects from sixty-eight school systems (one superintendent and one music supervisor in each) participated in the study. Thirty-four pairs of subjects were from school systems involved in the composers in public schools project (CPS) and thirty-four pairs were from a general population (GP) of cities.

PROCEDURES

Following development of an initial questionnaire, a trial run was made with five superintendents and their music supervisors in Southern California. Minor modifications in the questionnaire were made based upon the reactions of those persons.

Letters then went out to eighty-one superintendents selected at random across the country inviting their participation in the study. Upon receiving favorable responses both the superintendent and the music supervisor were sent identical questionnaires.

The thirty-four sets of data from the CPS districts were paired according to the size of the community with those received from the GP districts.

Comparisons were made between the GP superintendents and the CPS superintendents; GP music supervisors and CPS supervisors; GP superintendents and music supervisors; and CPS superintendents and music supervisors.

FINDINGS

Longevity

The supervisor and the superintendent from CPS school districts had both been in their respective positions longer than their counterparts from the GP school districts. Dawson notes that there is no indication that the length of service of the music supervisor influences the excellence of the music program.

Budget

Responses from both CPS and GP superintendents indicated considerable involvement by the music supervisor in budget development and budget control. The CPS supervisor, although not significantly, tends to understand his role as including more responsibility for determining whether the equipment and materials used in the elementary music program is adequate than that indicated by his superintendent.

Personnel

More CPS superintendents perceive recruitment as a responsibility of the music supervisor than was reported by the GP superintendents. CPS supervisors tended to understand their roles in teacher recruitment as one which included much participation.

Hiring.--The CPS supervisors' perception of their roles included more participation, although again not significantly, in hiring music teachers than was indicated by either the GP music supervisors or by the CPS superintendents.

Evaluation.--Although not significantly so, the CPS superintendents more often expect "much" participation in evaluation of music teachers than reported by GP superintendents.

Competencies.--At significant levels beyond .05 GP superintendents believe developing competencies in music staff members is one of the most important responsibilities of the music supervisor.

Curriculum

There tends to be much agreement concerning the role of the music supervisor in developing the music curriculum.

Staff Relationships

The responses were almost unanimous that both the principal and the music supervisor shared the responsibility for determining problems in a specific school.

CONCLUSIONS

Some of the tentative conclusions reported by Dawson are:

1. The CPS supervisor understands the role of the supervisor to include more participation and responsibility than is indicated by either the CPS superintendent or the GP music supervisor, but the CPS supervisor does not attempt to exert authority over school principals.
2. CPS supervisors fulfill a stronger role than do the GP supervisors in recruiting teachers for the school district.
3. GP supervisors fulfill a stronger role than do the CPS supervisors in developing competencies in music teachers.
4. CPS supervisors fulfill a stronger role than do GP supervisors in determining adequacy of materials and equipment.
5. The GP supervisor indicated a stronger role for the supervisor in determining and solving problems.
6. When the two groups of music supervisors are compared, the activity of supervision is similar in matters of: music budget, control of expenditures, hiring and evaluating teachers, curriculum development, and initiating experimental programs.

FURTHER RESEARCH

Dawson recommends that sociologists undertake to study the roles of supervisors in districts which have developed excellent programs in music education.

He further recommends that a study be made which attempts to establish whether a causal relationship exists among recruiting teachers, determining adequacy of materials and equipment, practicing democratic supervision, and excellent programs of music education.

CRITIQUE

The author states that one district may look upon the supervisor as an educational leader who is to provide leadership, stimulation, and inspiration to the rest of the music staff; one who will provide guidance for the growth of teachers in their profession; who selects, evaluates, and places music teachers or assists the personnel office in such matters; and who is responsible for the planning and disbursement of the music department budget. Another district may have a more limited concept of the proper roles of the music supervisor.

A review of the literature and related research, says the author, shows that supervision is a factor which can--and does--influence learning. In his chapter on literature the author cites a number of sources to support that assertion. This causes the overall attitude of the chapter to be more of a polemic rather than a reporting of research for he disregards or ignores the studies which indicate the ineffectiveness of supervision. Even though these studies may be of less influence and perhaps exist in smaller quantity, nonetheless they should have been cited as evidence on "the other side of the coin."

Dawson does a rather sketchy job of tracing the history of music supervision from the 1860's to the present. Secondary sources are used with authorship dates of 1951, 1958, and 1964. Primary sources would have made the scholarship more convincing.

The Chi square statistic was used to determine whether significant differences existed between the answers given by the groups. However, this statistical procedure was not explained nor justified. The assumptions which this statistic requires were not mentioned. The formula itself did not appear in the study. The degrees of freedom did not appear in the tables as a reference for the reader. The questions of how the computations were handled or how they were verified were not answered. Such phrases as "significance almost achieved" and "only close to significance" do not reflect precise description.

The original questionnaire which was submitted to five school districts in Southern California does not appear in the appendix nor do the names of the school districts to whom it was submitted prior to its alteration.

On the whole this is a well thought out study. The organization is logical and the sequence is easy to follow. The bibliography is substantial. Dr. Dawson has made a contribution to knowledge regarding the role of the music supervisor as he sees himself and as he is seen by his superintendent.

Deihl, Ned Charles. *Certain Relationships Among Concept Development, Listening Achievement, Musicality and the Quantification of Musical Performance Experience*. The Pennsylvania State University, D.Ed., 1963. Order No. 64-5351.
Reviewed by Thomas W. Miller

REBUTTAL BY NED C. DEIHL

The review by Thomas Miller of the author's thesis, published in *Bulletin* No. 9, contained a number of deceptive implications in addition to omitting any mention of the problem's background or significance. The author is grateful for this opportunity to make a rebuttal. On previous occasions the thought has occurred that interaction of a thesis author and reviewer would strengthen the *Bulletin* by making possible a dialogue.

The primary need for the study emerged from the background found in numerous speeches and articles by leaders in the profession speculating on the apparent lack of musical understanding by student performers. Considerable criticism has implied that students with years of performing experience were merely "technicians" or "parrots" imitating the musical language but not understanding it. Although this currently viable issue was evidenced through numerous references (many cited in the *Introduction* and *Review of Related Literature* sections of the thesis), the author could find no research or empirical evidence directly applicable to the issue.

A secondary need for the study arose from the rather primitive state of the field of musical measurement, particularly in the area of musical understanding, as contrasted to the factual information stressed in earlier published music achievement tests. The writings of Bruner and others have probably influenced this trend toward more meaningful learning. One of the measures in the study, *Measure of Musical Concepts*, was constructed by the author not only out of necessity but in an effort to devise new techniques for measuring musical understanding.

The study was, therefore, a pioneer effort on two counts; but nowhere in the review was this mentioned. The reviewer's neglect to refer to the *Introduction* or the *Related Literature and Research* leads one to question his knowledge of this area. The review failed to place the study in its proper frame of reference.

The reviewer's comment on "inconclusiveness" is in contrast to those by more sophisticated experimental researchers. The final statement of Wilson's review of Lehman's study (same issue) reads: "I agree with the researcher that 'the research either raises or leaves unresolved more questions than it answers.' This is often the case of such research and indeed is one of its objectives." Further, in the study reviewed no pretense of conclusiveness was made, and the limitations were clearly delineated throughout the work.

Throughout the "Critique" there is an underlying implication that the best or the most suitable tests were not selected for the study. The reader should be aware, however, that standards for measurement in research, depending on design, may be less rigid than those for published standardized measures. For example, Guilford states: "For research purposes one can tolerate much lower reliabilities than one can for practical purposes of diagnosis and prediction."[1]

Furthermore, where the reviewer criticized the measures, he did not suggest alternative or competing measures that could have been used, something of a cardinal rule in the respected Mental Measurements Yearbook. The "Suggestions to Reviewers" section of this publication states:

> An indication of the relative importance and value of a test with respect to competing tests should be presented whenever possible. If a reviewer considers a competing test better than the one being reviewed, the competing test should be specifically named.[2]

Had the reviewer thoroughly considered alternative measures, he might have developed a keener appreciation of the choices made by the author after a lengthy review of all available measures; for even now, four years later, there may be no measures superior to, or in some cases even similar to, those chosen for the purposes of the study. The reviewer admitted that he had not listened to two of the aural measures used in the study. To criticize is relatively simple; to support, or to suggest alternatives, requires depth of background as well as professional responsibility.

The review included various subjective comments in the "Findings" which constitute an objectionable practice. At times readers may even have had difficulty separating statements contained in the study from comments of the reviewer. Furthermore, Miller's observation concerning certain correlated measures involving aural skill reflected a misunderstanding of the rationale for partial correlation procedure. In addition, the old saw about whether experience affects musical aptitude or whether more apt music students stay with music longer does not account for the fact that the partial coefficient between experience and musicality was higher than the partial coefficient between experience and concept development.

It is necessary to consider the review's critique section in the order of points as presented to correct certain erroneous implications.

First, the problem of homogeneity of the sample, acknowledged in the thesis by the author. This is a trait of most college samples. However, 184 students, mostly freshmen, from high schools throughout and outside of the state, representing many colleges within the state university, do not constitute an unworthy sample for a doctoral study. Could we assume that performers who did not go to college would have made a better showing on the measures? Should we assume that students at Ohio State, for example, would be so different? Homogeneity in itself is not a particular weakness in this study; the point is that homogeneity tended to yield a low estimate of reliability of the measures, measures that "look better" when they are administered in a more heterogeneous sample. Implications from a homogeneous sample can be made to a similar population.

Second, lack of published norms beyond Grade 12 for Gaston's TEST OF MUSICALITY. The Gaston test was selected after extensive review of the standard published measures (including Seashore, Wing, Drake, Whistler-Thorpe, and others) and the divergent philosophies of musicality and its measurement. (To the author's knowledge, only the Seashore measure provided norms beyond Grade 12 in 1963.) Since Grade 13-14 (ages 18-20) are only a step beyond Gaston's standardized norms for Grades 4-12 (ages 9-18), it is most unlikely that the reliability of .90 would plummet to an inadequate level of reliability. Furthermore, the reported mean and standard deviation for the students taking the Gaston test in the Deihl study are not too dissimilar from the distribution published in the test manual, and no student in the author's sample made a perfect score.

Still further, and probably most important, the published norms are not directly applicable to the scores in the study. As Cronbach states, "Norms are unimportant in many uses of tests, particularly when one intends only to identify individual differences within a group."[3] (italics added)

Third, the question regarding the influence of learning on scores in the TEST OF MUSICALITY. It is probable that learning does affect scores on Gaston's test, and this environmental interaction was acknowledged in his test manual. This was also discussed in the definition of musicality reported in the present study, referring to measurement "which does not purport to isolate an innate faculty exclusively," and was further supported by definitions of aptitude from the ENCYCLOPEDIA OF MODERN EDUCATION, A CYCLOPEDIA OF EDUCATION, and the DICTIONARY OF EDUCATION. Again, the effect of learning or additional factors on musicality is irrelevent to the statistical design and purpose of the study.

Fourth, the Routch test. The author agrees that, although the Routch norms were not applicable, the number of the sample upon which the test was standardized should have been reported in the present study. Complete data was reported, however, in Routch's thesis which the reviewer could have obtained through inter-library loan. The reviewer's assumption that Routch had a problem with a limited and homogeneous sample was probably based on the fact that Routch measured college students. But since Routch was constructing a test expressly for college students, he standardized it on a college population. As a matter of fact, Routch's norms included 1,465 students from ten of the eleven state colleges in Pennsylvania. Again, the norms did not apply to the author's data. If the reviewer knew of a better measure available in 1963 for this particular area, he did not name it.

Finally, the validity of Deihl's concept measure. Its content validity was supported by the judgment of the thesis committee and, in the case of the aural items, the consensus of five faculty judges. The reviewer's misunderstanding of validity was evidenced by his statement: "It should also be pointed out that the sample population which was used in the construction and validation of this test was extremely limited, as well as homogeneous." The experts who validated the items are not the "sample population." Furthermore, the nature and size of the sample does not affect content validity.

The reviewer challenged the validity of the submeasure of performance concepts, questioning whether it measured musical concepts, although he had not heard the tape recording. Demonstration of performance concepts was defined in the study as the "ability to aurally apprehend and discriminate among varying qualities of performance;" the subjects were asked to do just this. For example, each student was required to discriminate among three very brief excerpts varying in tone quality and to choose the superior one. This involved a generalization and a discrimination, both essential in concept development. Lexical debate is pointless if the subtest measured the described qualities.

The reviewer thinks "there is more reason to believe that it [the Deihl subtest] measures fundamental listening techniques." He did not say why, nor did he define his enigmatic term. It is possible that we have no argument here. Certainly, listening techniques or skills are involved in musical concepts. Even the influence of innate ability is not precluded here, but teaching would seem to have some effect on these concepts. If we cannot promote concepts of tone quality, phrasing, etc., many conductors have been wasting their time.

In summary, the author made a pioneer effort in two areas, in providing some empirical data regarding a professional problem and in exploring a new measurement. Further studies related to this area should be encouraged.

FOOTNOTES

[1] J. P. Guilford, Psychometric Methods (New York: McGraw-Hill, 1954), p. 388.

[2] "Suggestions to Reviewers," The Sixth Mental Measurements Yearbook, . . . ed. Oscar K. Buros (Highland Park, New Jersey: Gryphon Press, 1963), p. xxxiii.

[3] Lee J. Cronbach, Essentials of Psychological Testing (New York: Harper and Row, 1960), p. 88.

Desiderio, Anthony Russell. Teaching the History of Western Music Through Instrumental Performance in the Secondary School. University of Southern California, D.M.A., 1966. Order No. 66-7068.
Reviewed by Charles R. Hoffer

One hardly knows what standard to apply in evaluating a project conducted for a degree such as Doctor of Musical Arts. Universities vary widely in the nature, amount, and quality of work demanded. These degrees are generally designed for the studio teacher at the college level, yet a candidate may have only superficial acquaintance with school music and with the educational process. What then should be the role of music education in his doctoral preparation? The lack of consensus on this question leads to a confusing inconsistency in dissertation requirements. A doctoral adviser conversant with the needs of music education faces a double challenge: he must direct a significant study-dissertation, and yet allow for the specific interests and abilities of the doctoral student. When the role of music education is unclear, dissertation results are often disappointing. Desiderio's project (the word "study" does not apply very well) exemplifies the present undecided nature of the dissertation for this type of degree.

The purpose of Desiderio's project is to provide woodwind instrumentalists with an historical perspective of Western music from the Middle Ages to the present. Through study and performance of selected musical examples, he attempts to have the students learn about the beginnings and development of music, the development of form and the major-minor tonal systim, the chronology of the composers, and considerations of style.

After presenting a resume of music history, Desiderio provides a rationale for the selection of each of the 47 excerpts that he has arranged for woodwind quintet. The musical excerpts constitute the greater share of the project, consuming about 116 of the 157 pages (not including appendices). Almost no complete works are presented. For example, there is a six-measure segment from the "Agnus Dei" of Machaut's Misse de Nostre Dame; there are 26 measures from Till Eulenspiegel by Strauss, and 22 measures from Schoenberg's Wind Quintet.

The project concludes with the suggestion that a similar program be developed for brass, strings, band, and orchestra.

COMMENTS

For several reasons the project does not appear to be a significant contribution to music education. First, there are the limitations of the study itself. No testing of the material was undertaken. Nor was any evaluation of it made by instrumental music teachers in the field or by other music educators. No suggestions are offered as to how the excerpts might be used. The resumé chapter is not intended for the students, so no provision is made for their learning by means other than the excerpts. The excerpts relate to no course of study. And they seem too short to be of value by themselves. Ideas about form or thematic development cannot be drawn from a few measures.

Second, there seem to be few situations in which the material would be usable. Almost no woodwind quintets exist as curricular groups in the secondary schools; usually such ensembles are formed on an extracurricular basis by members of the band or orchestra, and after-school meetings are apt to be limited and sporadic. College quintets are usually composed of music majors who already study music history and theory.

There are several traditional, almost time-honored arguments against the use of transcriptions. However, if such music maintains student interest and educates students, it is defensible. In this project no such tests of the transcriptions were made. In a few cases one might question Desiderio's arrangements. For example, Schubert's "Shepherd on the Rock" calls for a dramatic, full soprano sound. Desiderio transcribes the voice part at pitch for the flute. Somehow a flute playing F above middle C does not emulate a dramatic soprano very well.

Desiderio chooses a good cross section of music literature. He is also to be commended for realizing the lack of musical knowledge on the part of most secondary school instrumentalists. Unfortunately, his project leaves undone much that might have significantly improved the situation.

DiFronzo, Robert Francis. A Comparison of Tachistoscopic and Conventional Methods in Teaching Grade Three Music Sight-Playing on a Melody Wind Instrument. University of Connecticut, 1966. Order No. 67-4543.
Reviewed by Warren F. Prince

This carefully planned study compared the use of conventional and tachistoscopic techniques for teaching sight-playing on the flutophone in third grade preinstrumental music classes. Conventional techniques referred to certain procedures for presenting sight-playing drill on tonal patterns using the usual teaching aids. These aids included the blackboard, flannel board, textbook, and staff paper. Tachistoscopic techniques referred to parallel procedures using the tachistoscope as the primary teaching aid.

DiFronzo based the need for the study on the following argument which he supported by nonexperimental writings of several prominent music educators. "The enjoyment and satisfaction a child receives from participating in the instrumental program is directly related to the amount and degree of skill he has acquired in playing his instrument and the length of time it has taken to achieve this skill". Since discipline and skill in music reading are elements which help to achieve the highest enjoyment in music, the ability to read music notation is a factor which increases one's enjoyment in participating in the instrumental program.

Music reading is also a factor which increases one's skill in performance. But before this skill occurs, there must be a perceptual awareness of music notation. Increased skill in music reading will depend on the development of greater efficiency in the perception process. "To bridge this gap between music notation and performance, present scheduling and conventional methods of teaching instrumental music often produce unsatisfactory results." DeFronzo concluded that "a more efficient teaching technique to develop the visual skills of the student and to help him fill this gap between perception and music notation and performance must be explored."

PROCEDURES AND RESULTS

The investigator proceeded to test the hypothesis that tachistoscopic methods of teaching preinstrumental music reading on the flutophone in grade three were more efficient and effective than conventional methods. Secondary objectives of the study were to determine if there were any significant correlations between the methods used to teach sight-playing and the factors of pitch discrimination, tonal memory, rhythm recognition, intelligence, and previous music lesson (outside school) experience.

The experimental design chosen for this study was a pretest-posttest control group design with nonequivalent groups.[1] The investigator randomly chose two third grade classes from a possible three in a particular school to participate in the experiment. A flip of a coin decided which of the two classes were to act as control group and which as experimental group. At the beginning an appropriate orientation period was held. All subjects were taught to produce tone and finger all diatonic tones of the C scale on the flutophone and were familiarized with both the finger number and regular musical notation of these tones. The pretest was then given to both the control and experimental groups. At this point in January, the experiment began. The investigator taught flutophone to both the experimental and control groups through methods developed for the project. Each group received instruction one period a week for 18 weeks. The periods were 40 minutes long. At the end of instruction in May, both groups were given the posttest which was identical to the pretest.

The criterion test, developed by the author for this study, consisted of 20 four-measure melodies composed of tonal configurations of high priority found in basic preinstrumental instruction books. Taking a cue from Petzold,[2] the investigator analyzed twelve beginning method books for preinstrumental instruction to identify commonly used pitch patterns. The results of this analysis were used in construction of both the instructional materials and of the criterion test. An arbitrarily defined index number, taking into account both frequency of appearance and order of introduction into the method books, was obtained for each pitch pattern. Seventy-nine high priority patterns, all in the key of C, were identified for use in the instructional materials. Since the criterion measure was a power test, pitch patterns of various difficulty and priority levels from the methods book analysis were used. In addition, a board of experienced elementary music teachers was used to confirm the order of difficulty for the test items. The investigator emphasized the importance of melodic configuration in devising the test. Therefore, rhythmic patterns used in the test items were generally simple, ranked according to difficulty, and limited to eight for the entire test. Each rhythmic pattern was repeated two or three times as applied in order of difficulty to the twelve melodic configurations.

In addition to the 79 high priority tonal configurations mentioned above, pitch patterns extant in songs in the childrens' texts were included in the special materials used for drill with the "conventional" and tachistoscopic techniques. Special tachistoslides using these patterns were constructed for use with the tachistoscopic techniques.

Instructional techniques and materials for both the control and experimental groups were specially designed by the investigator. Since positive results in learning to sight-play were achieved by both groups, persons instructing preinstrumental classes should be well rewarded by detailed study of the descriptions of methodology in the original report. Since space is limited, a short summary of techniques and principles of presentation must suffice here. Basic to instruction for both groups were the following principles: (1) both groups were taught one 40-minute lesson a week for 18 weeks; (2) instruction for both groups was the same for each period except for the last 15 minutes; (3) the last 15 minutes for each group was devoted to drill on tonal patterns, employing the tachistoscope for the experimental group and conventional techniques for the control group; and (4) a rich variety of devices for teaching techniques of the instrument and for teaching reading of both number and musical notation were presented to both groups; these devices included rote singing and playing, rhythmical drill, writing notation on a staff, and identifying patterns in songs. Each lesson period for each group consisted of three sections: (1) review of already learned songs and learning of rote songs both vocally and instrumentally; (2) activities reinforcing concepts in the first part of the lesson; and (3) intensive drill on tonal patterns through performance on the flutophone in which the experimental group used the tachistoscope and the control group used conventional methods.

In addition to pretest and posttest scores on the criterion test, data gathered for each subject included measures of the following characteristics: (1) pitch discrimination measured by the McCreery Elementary Pitch and Rhythm Test; (2) rhythm discrimination on the McCreery test; (3) tonal memory on the McCreery test; (4) intelligence quotient; (5) private music lesson experience outside of school; and (6) home practice on the flutophone.

Various appropriate statistical comparisons of the data were made. The measures of pitch and rhythm discrimination, tonal memory, intelligence, and home practice provided assurance that the groups were not significantly different on any of these characteristics. The effect of music lesson experience on the development of melodic sight-playing ability was ascertained through an analysis of melodic sight-playing gains of those with and those without this experience.

The analyses in this study provided the following findings:

1. Tachistoscopic training used in this study was significantly more effective at the .01 level in teaching melodic-rhythmic sight-playing than the conventional techniques used with the control group.

2. The gains in sight-playing scores from pretest to posttest for both control and experimental groups were significant at the .01 level.

3. A correlation significant at the .05 level, between rhythm discrimination and gains in sight-playing ability was found for the experimental group. Correlations between gain in

sight-playing ability and the factors of pitch discrimination, tonal memory, I.Q., and overall music aptitude were low but positive.

4. Students who had had instrumental lessons outside of school showed a significantly higher gain in sight-playing scores than did those who had not had outside lessons.

COMMENTS

In this study, Dr. DiFronzo provided evidence that tachistoscopic methods were superior to conventional ones for teaching sight-playing in flutophone classes. Since his conventional methods were well thought out and specially devised for this study, they were probably superior to methods most often used in preinstrumental classes. This conclusion was suggested by the author as he compared the time taken for results in the study with the greater amounts of time conceded by other teachers to be needed for similar results. In addition, gains from pretest to posttest for both groups were significant. Further support for this conclusion is the evident care which was taken in devising methodology. Since sight-playing is an important product of preinstrumental instruction, suggestions for methodology in this study should be of great value to those working in the area.

The care taken in designing this experiment and in developing the measuring instruments and the methodology lend strong credence to the reported results. The investigator took ample precautions to provide controls for possible alternative hypotheses. Although the samples were not drawn randomly to meet the usual requirements, an attempt was made to assure that the two groups were not significantly different on some of the most important characteristics. Results of this attempt at matching are questionable in the area of musical ability since measurement of this characteristic was made through use of the McCreery Elementary Pitch and Rhythm Test. No norms or data for reliability and validity are provided for this test and the investigator did not provide any for his own use of the instrument. These weaknesses in sampling processes, however, were countered by use of covariance analysis.

Although not a great weakness, the fact that only one sample was used in this study was regrettable. Use of sub-samples from several schools, each consisting of an experimental and a control group taught by one teacher, would have strengthened the experiment by providing simultaneous replications of the study. Also, comparisons of the effects of teacher variation on results of the processes would have been possible.

In spite of minor weaknesses, this study has great merit. The care in designing methodology, the provision of sufficient controls for alternative hypotheses, and use of appropriate statistical tests are commendable features of the experiment. In addition, the author was properly cautious about generalizing his results beyond the particular circumstances of his study. However, since such thorough precautions were taken in implementing the experiment and statistical results were obtained at such a high level of confidence, this reviewer believes that the results could be duplicated in many other circumstances. Taken as a whole, the study has much to commend it to those interested in preinstrumental class instruction.

FOOTNOTES

[1] This design is referred to as quasi-experimental and discussed as Design 10, pp. 47-50, in Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally and Co., 1966). Reprinted from Nathaniel L. Gage (ed.), Handbook of Research on Teaching (Chicago: Rand McNally and Co., 1963).

[2] Robert G. Petzold, "The Perception of Music Symbols in Music Reading by Normal Children and by Children Gifted Musically," The Journal of Experimental Education, XXVIII (June, 1960), pp. 271-79.

Dimondstein, Geraldine. *A Conceptual Model of the Arts as Sensuous Expression in the Education of Young Children*, University of California, Los Angeles, Ed.D. Order No. 67-16,011.
Reviewed by Miriam P. Gelvin

The purpose of Dimondstein's study "was to develop a conceptual model in the arts as a means of searching into the essence of aesthetic experience, and into the significance of the sensuous response as the most sensitive expression of that experience." The study seeks to present a conceptual framework usable by elementary teachers to bridge the gap between the "doing" of art activities, and the "knowing" of art as a conceptual body of materials.

The conceptual model is concerned with the nature of aesthetic stimuli defined in terms of space-time-force, the nature of aesthetic experience described as the creative process, and the nature of the sensuous response as symbolically transformed in the arts.

Certain basic questions posed by the writer influenced the content of the study, such as:

> How does the sensuous response differ from other human responses?
>
> How does the sequence of perception-emotion-expression relate to aesthetic experiences as different from everyday experience?
>
> What are the conceptual components of the arts that give them their distinctive characteristic as a source of "knowing" and "feeling"?
>
> What are the characteristics which both unify and differentiate the arts?

Four art forms--movement, sculpture, painting and poetry--were used in developing the model. Similarities and dissimilarities existing among these arts were based upon the four factors: (1) definition and description, (2) distinguishing characteristics, (3) experimental approach, and (4) art elements.

Generating a Conceptual Model

Basic foundation for the study resides in the theoretical, philosophical, and psychological constructs. The perceptual theories from Penomenology, Gestalt, and Transactional Psychology establish the behavioral form of reference, and the aesthetic theories of Cassirer, Dewey, Read, and Langer provide the basis for conceptualization in the arts as a nondiscursive language.

①

The sensuous response becomes the center of the model. Composed of perception-emotion-expression, it is this response that separates the arts from other human responses.

Perception in the arts is defined as experience in the arts. The lived experience or immediate encounter becomes the foundation of knowledge about the art. The art form and the lived experience coexist with the participation and creation of the concrete art form. As lived experience the tangible created art form is experienced by the creator and also by the observer.

The phenomenological approach seeks to determine structures inherent and basic to all art forms. The idea of similarity of structure in different art media is viewed as a Gestalt theory; the relation between the subject viewing and the object itself interacting and affecting their own identity is conceived to be a transactional relationship. The meaning of the art object or experience emerges from the transactional relationship as a joint product of the "something" and the individual "doing".

Emotion, like perception, has an object. In individual experiences, however, something or someone evokes the experience. In emotion or feeling the object is known in a particular way, appraised by the individual and affecting him personally. The appraisal of the object is "felt". The "felt" appraisal is the essence of the sensuous response. Thus emotion is concerned with personalized, subjective meaning.

Expression is the response to feeling. With children the response is direct, immediate, and intuitive, expressing how they feel rather than what they know. However, expression includes not only spontaneous self-expression, but also synthesized expression, which is a synthesis of feeling, memory, and ideas expressed in the transformation to a symbolic form.

Thus the sensuous response becomes more than a random emotional experience and results in a form of symbolic expression, an organized aesthetic effort.

The model readily incorporates the symbolic theory of art, as perceived by Langer. The symbol becomes the logical analogy, the expression of the perception-emotion sequence. Art is the synthesized symbolic expression.

The Conceptual Model

The perceptual elements of space-time-force are the qualities of immediate experience involved in the expression of the sensuous response. The child needs essential concepts of these qualities and a vocabulary for use of the concepts as a means of comprehending the aesthetic nature of the elements.

Essential to his understanding of Space are two concepts: that the body is a reference center determining the child's use of space, and that movement is the essential ingredient of space perception. Essential in Time is the experience of the rhythm of movement, the created sense of duration. Force is manifested as the expression of stress and dynamics.

The use of space-time-force on the aesthetic level is in terms of "virtual" components, not "actual." Virtual space-time-force qualities are conceived to be basic abstractions which are created and not recreated phenomena.

The creative process involves the child both as creator and critic. His awareness arises as a result of dialectical relationships between creator and critic; as such he uses both intellectual and emotional functions. He is consciously aware of what he has done and of the elements involved. The result in behavioral components is emotional involvement, focus on a problem, developing an idea into objective form resulting in a release of imagination. The ultimate function of the creative process is the development of self-identity and self-realization.

The four forms of art are considered as virtual gesture or movement, virtual kinetic space or sculpture, virtual space as painting, and virtual experience as poetry. Each art is analyzed upon the preceding conceptual framework in terms of definition, description, distinguishing characteristic, experimental approach, and constituent elements.

The conclusion is that imagination demands to be given form, that the arts enable an expression of imaginable feelings and emotions expressed metaphorically in symbolic form. "It is imagination which gives impetus and nurtures the arts and which is itself transformed by involvement in aesthetic experience."

Critique

This study is an impressive contribution to the field of aesthetic education and particularly the education of children in the arts.

The conceptual model is built upon philosophical and psychological foundations which support the aesthetic theory involved. Particularly important is the development of the sensuous response, and its relation to the self-realization and self-identity of the children. Certainly here is a point of emphasis for including the arts in the education of the individual through curricular structure.

Questionable in the presentation of the arts of movement, sculpture, painting, and poetry is the omission of music. Contemporary ideas of its structures and materials should be related to the criteria used in defining, describing, characterizing, and approaching the other arts.

Duerksen, George. Recognition of Repeated and Altered Thematic Materials in Music, University of Kansas, Ph.D., 1967.
Order No. 68-584.
Reviewed by Warren F. Prince

This study presents a long needed exploratory assault on one aspect of the problem of perceiving complex musical relationships. The purpose was to investigate the recognition of musical themes as they are repeated or altered throughout musical works. Two areas of melodic reocgnition were probed. The first area was the extent to which certain persons were able to recognize thematic materials when they appeared in exact or altered form in a musical composition. "Extent" was used as a relative term and was expressed as a comparison of ability of groups of college music students, college non-music students, and high school students to score on a music theme recognition test. "Recognition" in the study included the following operations: (1) listening to a musical selection; (2) distinguishing the first theme; (3) remembering the theme; (4) listening to the rest of the selection; and (5) indicating on an answer sheet whenever the them was used again in either exact or altered form.

A second aspect of the study was to determine the relation between the subjects' abilities to recognize themes and characteristics of musical experience, academic aptitude, music preference, reported affective response to the music of the test items, and preference for musical style.

In addition to Duerksen's doctoral dissertation, which is the subject of this review, this same research has been reported under separate titles in two journals devoted to music education research. It has also been published as a United States Office of Education project.[1] An extensive report of the research, often taken verbatim from the dissertation and including many of the original tables, appears under the dissertation title in the Journal of Research in Music

Education.[2] A shorter report under a different title appears in the Bulletin of the Council of Research in Music Education.[3]

Since the procedures and results of this research are readily available, a detailed resume would be redundant. Therefore, this review will proceed with a short, general account of the study and end with commentary.

The investigator obtained responses on a thematic recognition test from a large sample of college and high school students. He then attempted to ascertain the relationship between the recognition variable and many other variables already mentioned. The general method was to divide the subjects into various categories on some aspect or combination of aspects of a particular characteristic from information supplied by a questionnaire. The categories were then compared on the criterion of recognition by means of a t-test or analysis of variance. In some instances correlation coefficients were obtained. In this way "associations" between recognition and approximately 20 varialbes were examined in order to answer ten questions the investigator posed as the central issues in his inquiry.[4] Thus, a tremendous amount of data is generated.

Duerksen presents this data tentatively and is usually careful to deny the findings as implying causal relationships.[5] He views the study as exploratory, but at the same time seems to imply a direct relation between the findings and curriculum development. For example, he states, "Although the data do not provide definitive evidence of causal relationships, they may provide tentative direction for music educators interested in planning curricula which will better enable students to make recognitions of complex musical stimuli."[6]

COMMENTARY

Duerksen is to be commended for tackling an area of research which has long needed exploration. In preparing for his work he produced an excellent review of related research and literature. Also, he focused on an obviously important question: given various amounts of musical experience, training, and interest, how well will subjects be able to identify musical themes and recognize them when they subsequently reappear in repeated or altered form in the course of the musical composition? An interesting method for measuring recognition responses of the subjects was employed.

However, several aspects of the study leave the reader confused about the intentions and outcomes. (1) Several difficulties arise concerning the definition of the problem and rationale. (2) The research methods do not seem to be well matched to the purpose of the study. (3) Some problems of sampling exist. (4) Contradictions occur between the limitations the investigator sets for his data and the conclusions and recommendations he draws from them.

Duerksen states that the purpose of the study was "to investigate the recognition of musical themes as they are repeated or altered throughout musical works."[7] The real purpose, as carried out, was to investigate the "associations" between recognition, as measured, and many variables derived from subject characteristics already cited. The term "associations" is never clearly defined. In fact, the investigator uses two basically different research techniques to assess these "associations"; one is correlation coefficients which are ordinarily used as indices of relationships between variables, and the other is inferential statistical techniques which are usually used to assess cause and effect relations. Since the author denies cause and effect inferences in his data, a problem is posed for the reader which will be dealt with more fully later in comments on the research design.

Another difficulty in relation to the definition and rationale for the problem is created by the investigator's "shotgun" approach to choosing variables for examination. He includes almost every variable that can be estimated conveniently through use of a questionnaire or that can be taken from school records (e.g., grade point average). Rationales of various degrees of strength for the inclusion of some of these variables are implied in the chapter on Related Literature and are based on past studies. But no rationale for including or omitting specific variables is given. Consequently, at least two important variables to an investigation of thematic recognition were omitted from the study. They are musical memory and tonal discrimination. A reasonable assessment of musical memory could have been made by the memory part of the Drake Musical Aptitude Tests. Tonal discrimination might have been assessed by the Tonal Imagery section of the Musical Aptitude Profile. Since these two variables, in addition to general musical aptitude, logically are related to the process of thematic recognition, it is puzzling that they were not studied or at least used as matching or control variables in the study of the other variables. The indiscriminate inclusion of many of the variables along with the striking omission of others places this study very close to the category described by Gage as

> "dust-bowl empiricism," in which the investigator looks for facts wherever he may find them, with little prior consideration of where it may be most valuable to look and with little idea of how he will interpret what he finds.[8]

Another problematical area in this research is the choice of research design and analysis techniques. Duerksen continually denies seeking cause and effect relations in his data without explicitly stating reasons for the denial. Instead, he refers to the relationship between individual variables or combinations of variables and the criterion variable (theme recognition) as the "association" of these variables. This reference suggests that he is attempting to assess how these characteristics vary together or correlate (the alternative being a cause and effect relationship). The usual method of making such assessments is to compute coefficients of correlation. Only in instances where the subject characteristic variable is measured on some kind of continuous scale, such as grade point average or liking response for a particular kind of music on a seven-point scale, does the investigator use correlation. More often he divides his subjects into groups on a nominal scale (e.g., college music majors, college non-music majors, and high school students) or on an ordinal scale (e.g., little, some, much listening experience) and compares the groups on the criterion of recognition test scores through use of analysis or variance and t-tests. When he follows this technique, the investigator is actually implying a question about cause and effect. For the supposition ordinarily is that when subjects are divided according to difference in kind or degree on one variable and then compared statistically on another variable, significant differences on the second variable will be due to differences among the groups on the first variable. The investigator offers no rationale for the use of these inferential techniques in this study.

When Duerksen used this statistical technique, the data treatment was cast into a form similar to what Stanley and Campbell call an ex post facto design.[9] The problem that arises out of this situation is illustrated by the following example. When Duerksen divided his categories of subjects (college music majors, non-music majors, and high school students) into groups according to the different kinds of performance activities they had, he found through analysis of variance that there were significant differences among the kinds of performance activities only for the non-music majors. Through specific t-test comparisons, he concluded that "the non-music majors who had participated in chorus, or in chorus in combination with band and/or orchestra scored significantly higher than those who had participated in band alone, piano alone, or no performance activity."[10] What does this mean? Since the investigator has stated that "the results of the study neither provide norms nor provide definitive evidence of the causes of the recognitions...,"[11] we would have to conclude that this data has little meaning. It stands only as a description of what happened in this one instance and, under the investigator's restrictions, cannot represent what might happen again under the same or similar circumstances. In other words, no inferences to a larger population can be made and it is difficult to see how conclusions and recommendations can be based on the results.

However, if we were to relax the author's self-imposed restrictions, we would still be in trouble. In this case we would have to operate uncer the assumption of the parametric tests, analysis of variance and t-test. These assumptions would be that the samples were chosen randomly or at least could be assumed to be equal on all important variables except the one under study--kind of performance experience; that each group represented a population which is normally distributed; and that the variances for the populations represented were equal. A very difficult assumption to make would be that the groups were equal on important variables. For example, under the conditions of choosing the groups in this instance, it is possible and even likely that students with more musical ability (possibly higher musical aptitude) would elect more kinds of musical activities. If this happened, the comparison would not be merely among groups of subjects with different kinds and combinations of musical experience, but in addition, with different amounts of musical aptitude. Add to this the possibility of the groups having different amounts of musical experience, different qualities of music instruction, etc., and it can be seen how unclear the issue becomes. In other words, it is impossible to make a simple comparison on subjects grouped into various categories of one characteristic without controlling all of the other relevant variables or in some way accommodating them in the analysis. The results obtained may have been a product of selective combinations of several relevant variables rather than the result of simply having had different kinds and combinations of musical experiences. Reporting significant differences in this situation has little meaning.

Duerksen provided good samples of college music majors and non-music majors as subjects for this study, but the sample of high school students seemed misrepresented. These high school students were attending a summer music camp when tested. To say that they "seemed to comprise a typical cross-section of Michigan high school students, representing both urban and rural communities;..."[12] is incongruous. The only population that this sample could represent is that of high school students with enough musical ability, interest, and family affluence to allow them to be selected and to enable them to pay for attendance at this type of summer music camp. Thus, there was little wonder that this group had a higher average recognition score than did the sample of college non-music majors.

Another source of confusion in this study was the apparent contradiction between the limitations the investigator imposes on his data analyses and the ways in which he uses the results later in the report. In the first chapter of the dissertation he denies any intention of drawing inferences from his study or defining parameters when he states that the "purpose is exploratory rather than definitive. Although the results of this study neither provide norms nor provide definite evidence of the causes of the recognitions...,they do provide suggestions for further investigations."[13] However, in summing up the investigation, the author seemed to contradict the above view of the study when he stated that "several conclusions can be drawn and recommendations developed from them (the data)."[14] The confusion seems to stem from the fact that "associations" are assessed through inferential statistical methods. It is a short step then to viewing the data and analyses as having inferential power and, therefore, forming evidence for cause and effect relationships in spite of stated preliminary cautions.

As a matter of fact, the language of the Conclusions and Recommendations section generally suggests that the study is viewed by the author as evidence of cause and effect relationships. For example, the following two statements taken from this section clearly show that

Duerksen has taken this view. For example, he concludes: "Participation in piano lessons, or in band only, seems to have little effect in enabling students to develop the listening skills measured in this study." And he continues: "From the data it seems possible that participation in chorus, or in chorus in combination with instrumental activities, is somewhat more effective in enabling students to develop these listening skills." In both statements the investigator links participation in some kind of musical activity to either positive or negative development of listening skills. The statements are made clearly in cause and effect terms. The resultant contradiction between the stated restrictions on the research design and the kinds of conclusions drawn from the data and analyses make it difficult for the reader to know just how to view the study.

In summary, the investigator has chosen an important area of research and provided an interesting means of measuring thematic recognition. However, lack of clear focus in defining the research problem, deficiencies of "fit" of the research design to the purposes of the research, and some contradictions in reporting the research make it difficult to assess the true value of this study. The data and especially the conclusions should be viewed and used with great caution. However, it is the hope of this reviewer, along with Duerksen, that pursuit of other studies of recognition of thematic relationships will follow.

REFERENCES

[1] George L. Duerksen, "Perception of Repetition and Alteration of Thematic Materials in Music," USOE Project No. 6-8311. This report may be obtained from ERIC Document Reproduction Service, National Cash Register Company, 4936 Fairmont Avenue, Bethesda, Maryland 20814.

[2] ________, "Recognition of Repeated and Altered Thematic Materials in Music," Journal of Research in Music Education, XVI, No. 1 (Spring 1968), pp. 3-30.

[3] ________, "A Study of the Relationship Between the Perception of Musical Processes and the Enjoyment of Music," Council for Research in Music Education, Bulletin No. 12 (Winter 1968), pp. 1-8.

[4] Ibid., pp. 2-5. The questions and the results related to them are detailed in the CRME report.

[5] Ibid., p. 1.

[6] George L. Duerksen, "Recognition of Repeated and Altered Thematic Materials in Music," (unpublished Ph.D. dissertation, Department of Music Education, University of Kansas, 1967), p. 9.

[7] Ibid., p. 1.

[8] Nathaniel L. Gage, "Paradigms for Research on Teaching," Ch. 3 in Handbook of Research on Teaching, ed. by N. L. Gage (Chicago: Rand, McNally & Company, 1963), p. 102.

[9] Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally and Co., 1966), pp. 70-71. Reprinted from Nathaniel L. Gage (ed.), Handbook of Research on Teaching (Chicago: Rand, McNally & Co., 1963).

[10] Duerksen, dissertation, p. 92.

[11] Ibid., p. 9.

[12] Ibid., p. 78.

[13] Ibid., p. 9.

[14] Ibid., p. 142.

[15] Ibid., p. 142.

[16] Ibid., p. 142.

REBUTTAL

George Duerksen

Prince's critique seems to be pervaded by a wish that a different research study had been done and reported. The critique prefers the dissertation had used different words, had pursued different purposes, and had chosen different statistical analyses. On one hand the critique, apparently believing that only cause and effect data can be useful in tentative curriculum planning, wishes the research had searched for such data; on the other hand, the critique persists in substituting its word "relationship" for the dissertation's word "association" and then complaining that the study should have used relational (correlation) statistics to analyze these "relationships." In another place the review substitutes the phrase, "abilities to recognize," for the dissertation's word "recognitions." By doing so, the review seems to wish the research had studied abilities.

The dissertation did not investigate cause and effect, although the review seems to prefer it had. Time and again the critique attempts to examine the data in cause and effect terms, although to do so it has to disregard the nature of the research design, ignore the use of the subjunctive form and/or qualifying words in many statements and dismiss frequent reminders to the contrary which occur in appropriate parts of the dissertation. Part of this insistence on cause and effect seems to stem from the review's confusion about functions of design and statistical analysis. The review asserts "when he follows this technique (use of analysis of variance and t statistics), the investigator is actually implying a question about cause and effect." Those who understand research know that the word "inferential" in statistics does not refer to cause and effect. Inferential statistics help investigators make inferences about whether different samples are likely to be drawn from the same population. Causation is examined through experimental design.

The scholarly reader will be competent to judge for himself whether or not the statistics used were appropriate. Research questions were asked, an appropriate design was chosen to search for answers, and statistical techniques were chosen to be appropriate for the design. The review's implication that correlation analyses would have been appropriate throughout the study seems strange. Some variables were measured on nominal scales, with which correlations make little logical sense. How would band experience, orchestra experience, and chorus experience fit on a single continuum to be correlated with recognition test scores? Furthermore, correlations show degree of relationship, while some of the research questions asked require testing of significance of differences. There was an important part of the study which used correlation techniques. In view of the critique's emphasis on correlational analysis, its almost complete neglect of the part of the study which did use such statistics seems remarkable.

In its confusion about cause and effect, statistical analysis, and curriculum planning, the review (paragraph 3, page 57) presents a direct quotation which is not only taken out of context, but seriously misquoted as well. (Critique reference number 6). This statement, in the context of the introductory chapter from which it is misquoted, concerns the procedure (design) of the study. "Its purpose is exploratory rather than definitive. Although the results of the study neither provide norms nor provide definitive evidence of the causes of the recognitions which are measured, they do provide suggestions for further investigation, both in the form of normative studies and experiments to discover causal factors." The misquotation, however, changes the statement to have it refer to curriculum planning.

The critique professes difficulty understanding the study's rationale, and describes the research as close to "dust-bowl empiricism." Its complaints about selection of variables are difficult to answer, for they are vague. The variables were selected to answer the research questions on which the study was based. Under the assumption that its readers would be reasonably conversant with the literature, the thesis did not list and discount all factors in the universe which were not included as category variables. Apparently the dissertation committee, and the U.S.O.E. field readers who recommended funding the study after examining the research proposed (and before data were gathered) would not agree with the review's charges of shotgun approach and dust-bowl empiricism.

The review expresses concern that the study did not examine "musical memory" as measured by the Drake test, or "tonal discrimination" as measured by the *Musical Aptitude Profile*. However, the review provides no data to show that scores on tests such as the Drake are related in any way with the recognition variable examined in this study. Data reported in the psychology of music literature concerning relationships of test scores with complex musical behavior lead to a general belief that such relationships would be low if they existed at all. Use of the suggested sections of the MAP would not seem logical; these sections are similar to the recognition measurement used in the dissertation research. It seems quite possible that they measure aspects of the same skill. To equalize groups on the basis of such scores seems likely to install appreciable bias in the design. Logical analysis of the suggestion from yet another point of view provides another striking insight. If a strong relationship existed between "ability" scores and the "recognition" scores measured, and if students with high ability scores tended to choose different kinds of and persist longer in performance experience, the minimal difference in recognition scores associated with major differences in performance experience would be even more striking.

In discussing the sample measured in the study, the review asserts that the high school students are misrepresented. Its assumption of selectivity in ability, interest, and affluence in what it calls "this type of summer music camp" is open to appreciable question. Suffice it to say that the dissertation clearly stated the students measured were in a particular music camp, and followed this statement with a description of what they *seemed* to represent. The review expresses "little wonder that this group (the high school students) had a higher average recognition score than did the sample of college nonmusic majors." In doing so, the reviewer seems to miss the meaning of statistical significance; there was no significant difference between the mean recognition scores achieved by the high school students and the college nonmusic majors.

If in analyzing the section on conclusions and recommendations, the reviewer chooses to ignore the context and qualifying words, little reply seems needed. Nor does it seems necessary to enumerate here all the possible values of exploratory research. It might be useful to note that the study also concerned the relationship between recognition scores and reported degree of like-dislike for the music in which the recognitions were made. The conclusions and recommendations refer to the entire study, and not only to the part reviewed.

The dissertation, with the research reported therein, stands on its own merits. The interested scholar is advised to read the original and to make his own judgments; the dissertation has little to fear.

(A point by point refutation of Dr. Prince's critique has been prepared by Dr. Duerksen. This document is available on request from the editorial office of the *Bulletin*.)

Easterbrook, Carl W. Continued Musical Interests of Senior High School Students in AA Accredited High Schools of Nebraska. Colorado State College, Ed.D., 1969. Order No. 70-7124.
Reviewed by Robert F. Noble.

As most readers will know, normative survey studies served an important function in American education around World War I and during the 1920's. Quantification of "what is" was important in the testing movement and in determining some educational practices. However, the normative survey seems to maintain a "strangle-hold" on many doctoral and master's theses since this period, leading to the justifiable criticism that we in teaching know a great deal about "what is" but frankly very little about "what ought to be." Easterbrook's study was another--albeit well-done--quantification of some existing evidence.

The direct interest of Easterbrook seemed to be analysis, through a normative survey, of a sample of high school seniors in terms of their vocational interests in music. His secondary interests appeared to be data on their high school music activities, interests, courses and home environments as influences on continued music experiences.

PROBLEM AND DESIGN

His stated problem was to: "Examine career interests of selected high school seniors in class AA schools in the state of Nebraska, the factors which have influenced these decisions, and the implications as they apply to teacher-education institutions and to the future of music education in the state." Limiting his sample to senior class students active in music in their schools, he surveyed, by means of a questionnaire, 19 AA schools (as accredited by Nebraska State Department of Education) from a population of more than 400 schools in the state. In addition, he validated several of the responses by a personal interview. The total N was 553 students, which represented 75.7% of the seniors participating in their school music programs.

For purposes of analysis, he blocked responses into three categories: Group I: Those who did not plan to continue study of music in college (72%); Group II: Students who planned to major in music in college (12%); and Group III: Those who were uncertain (15%).

FINDINGS

While numerous findings were presented from the data from the 553 students, the following are identified by the reviewer as the most significant:

1. Mothers surpassed fathers in music participation, but the involvement by the former was only 13 percent.
2. Students not planning to go on in music had the highest percentage of radios and musical instruments in their homes.
3. The highest percentage of fathers, 35 percent, were employed as skilled laborers.
4. One-half of the mothers were employed outside of the home.
5. Of the kinds of music listened to in the home, symphonic music had the highest percentage, rated as occasional listening.
6. Evidence existed that a continued music emphasis on the part of respondents would be possible if they desired.
7. Backgrounds of parents indicated fairly extensive previous music association and involvement.
8. There was ample evidence to indicate that the music education of respondents was largely confined to large-group performance which failed to develop mature concepts of musical understanding and literacy. This may be a contributing factor to students' discontinuance in music activities following their formal education years.
9. Of Group II (those continuing music in college) more than half had had courses in music theory.
10. Parents were the greatest influence in directing students' music interests, followed by students' interest in group participation and the influence of high school music teachers.

CONCLUSIONS

Among a number of conclusions, the following merit reporting:

1. Parents are not presently involved musically to any extent.
2. There is an abundance of music-reproducing devices in the homes of these students.
3. There is substantial evidence that music is less real and less acceptable to high school students today. [This was due to the high reported incidence of guitars in the homes and interest in combos.]
4. Music content courses are not adequate to meet the needs of students who intend to make music a career.

5. There is a gap between knowledge of music and technical proficiency.
6. A majority of students who choose music as a career select professional performance over teaching. The role of the music teacher was unrealistic to them.

CRITIQUE

In spite of this reviewer's antipathy toward normative survey studies at the doctoral level, this research appeared to be well-controlled, with adequate sampling of one stratum of his population and with some conclusions significant for music education. The following observations bear consideration.

The thesis title itself seems to be misleading. Instead of investigating the "continued music interests" of his respondents, Easterbrook confined his research to the issue of the pursuance of music as a career in college. Few music educators in this country would view orientation to a profession as a chief purpose of music education. Our chief purpose remains value-discrimination for all participants--a form of general education. While all disciplines taught in the high school have students who major in those fields in college, very few focus their experiences vocationally. Secondly, whereas the title says "senior high school students," the investigator sampled only seniors active in music, a biased sample of the population. Thirdly, the term "AA acredited high schools" would cause most readers to think in terms of school size rather than an accreditation rating.

Many of the findings and conclusions seem to represent well-established facts about high-school music programs and furnish little in the way of new information. Certainly, a small-scale normative survey can have little in the way of generalizability to other target populations without extensive population-analysis. His findings, however, seem to be in agreement with similar ones throughout the country.

Finally, one cannot justifiably derive qualitative analysis from quantitative data. Yet several of Easterbrook's conclusions are of a qualitative nature, the evidence for which is not substantiated by his data.

Of particular interest to this reviewer was the conclusion that the role of the music teacher was unrealistic to the respondents. This is in keeping with the experiences of many of us in teacher-education in music. What makes this so surprising is that the typical student active in music in high school spends more continuous time with one or two music educators than any other teacher in the school. He is in a position to be more knowledgeable about that role than any other teaching role in the school, and yet, as he visualizes music-teaching as a career, he seems puzzled and unclear as to what the music teacher is really trying to accomplish in that career.

Edlefsen, Blaine. Symbolization and Articulation of Oboe Tones.
Eastman School of Music, 1966.
Reviewed by Harry Peters.

This study is of particular interest to advanced oboe players and teachers, however advanced wind instrumentalists other than oboists should find its contents of considerable value.

As often happens, the table of contents displays the nature of the study in a nutshell. This thesis is concerned with the following: the nature and characteristics of an oboe tone, a definition of articulation, the physical process of producing a musical sound, the mechanical process of producing an oboe tone, the physiological mechanism which produces and controls an oboe tone, the use and meaning of symbols for classification, the symbolization and classification of the steady state, growth, decay and complete oboe tones, and single and multiple tonguing.

The basic purpose of the thesis is to attempt to "symbolize oboe tones" and their articulations. To achieve this the author devised an artificial but precise vocabulary of symbols derived from the disciplines of linguistics, phonetics, physiology and acoustics. Herein lies a great value to the teacher--if the somewhat complicated vocabulary can be mastered. The thesis, moreover, has other values. It can help the oboist to more easily understand the physical approach to his instrument, for Edlefsen has probed and lucidly described what occurs physically to produce that which we hear when the tone is attacked, held, and released.

The bibliography is of unique value, perhaps more for the articles, theses and unpublished materials than for the books. This is quite up-to-date and seems complete. Edlefsen could do a service to annotate this list for distribution to woodwind players.

Ellington, Charles Linwood. The Sacred Harp Tradition of the South: Its Origin and Evolution. Florida State University, Ph.D., 1970. Order No. 70-6294. Reviewed by Robert W. John.

What was Sacred Harp? Or more appropriately, what IS Sacred Harp? The answer is elusive, many sided, and enigmatic.

Sacred Harp is the title of an oblong, mid-nineteenth century book of crudely written homophonic songs (tunes), yet it is so highly regarded that for more than a century it has occupied a place of honor in many American homes--a place not far from the Bible.

Sacred Harp is a unique style of singing. It is a style which would make any singing coach cringe, for it seems to break every convention of correct singing. Yet it has the power to make strong men weep, and spark response in the human heart never achieved even by our operatic super-stars.

Sacred Harp is a method of musical instruction which makes of its practitioners excellent music readers, yet it is virtually unknown to music educators, and even the few who know of it tend to ignore it.

Sacred Harp is a warm, happy socio-musical experience to many people, yet to others it is a source of a most seeming embarrassment, for it smacks of the rural, the unsophisticated, the old fashioned.

What was, or what is Sacred Harp? Like Charles Dickens describing pre-revolution France in the opening lines of A Tale of Two Cities with a series of descriptive contradictions, the Sacred Harp is, indeed, a series of modern contradictions.

In 1844, Benjamin Franklin White, a South Carolinian recently moved to Georgia, published a run-of-the-mill shape-note tune book entitled Sacred Harp. White was a typical tune book compiler. He had a third grade education and, at best, a naive understanding of music. His book, like the jillion other mediocre works published at this time should have followed all the rest--that is, stay around a few years and then drop out of print in favor of a "far superior collection, never before published." Here, however, is why dissertations are written about this book--for the Sacred Harp refused to die! Even today, one hundred and twenty-seven years later, it is still going strong. My most recently acquired copy is a 1966 edition, and I look for many more to come before this work goes permanently out of print. The story of this incredible book and how it touched the lives of tens of thousands of Southerners during its long history is the theme of Ellington's dissertation.

For those not familiar with this shape-noter, this thesis is worth reading. Even those who are acquainted with the Sacred Harp will discover that the author has some points of interest in his essay. It will, however, take much more than a single volume to do justice to this great phenomenon, and this author has done well to give us an overview. Much still remains undone. Even basic questions are unanswered. We really haven't the foggiest idea, for example, who E. J. King, White's coauthor, was. (We don't even know what his initials stood for.) The whole history of shape notes and their use in America is still pretty hazy. Was it, as Ellington implies, a continuing force from earlier times in Europe, or was it in fact, rediscovered by Americans? One could pose a whole list of questions which still need answering, but let us examine some of the things the author did clear up. Ellington makes it quite clear how and why the Sacred Harp did not die at what should have been the appointed time. The simple fact of the matter was that White refused to let it die. He maneuvered the book's adoption by the most influential singing societies. Revision committees composed of prominent men reworked the contents when White sensed that interest was waning. Frequently, tunes written by members of the revision committee would be included in the new edition. Under such circumstances, how could any influential member of a committee do less than strongly recommend its continued use?

As one reads the Ellington narration he cannot help but attempt to draw parallels between White's modus operandi and that of so many of the other tune-book compilers of the nineteenth century. It would be comforting to think that books by Mason, Hastings, Bradbury, Emerson, Perkins, White and Walker were the best of the lot. It may be that, with the passage of time, these books will be judged as no better than average. Rather it was their great ability to "market" their wares which kept their names from falling into oblivion like scores of their contemporaries.

We need to have more studies in this field. One day, with the composite work of many, we shall get to know something about this facet of our music heritage.

Is the Sacred Harp dead? Don't you believe it! Come to Georgia, Alabama, Tennessee, Mississippi or Florida most any Saturday or Sunday. Consult a Directory and Minutes of Annual Sacred Harp Singing before you come to determine where a convention is being held. (Such a directory is published each year in Birmingham). Then, pick up your copy of the Sacred Harp--any one of the more than dozen editions will do--or if need be you can buy a new copy at the meeting. As you drive to the Primitive Baptist Church, which is the likely place of meeting, mull over once again the four shapes of the tones, fa, sol, la and mi for you will be singing them with gusto as you take your place in the friendly "hollow square."

Esselstrom, Michael J. The Role of the Supervisor of Student Teaching in Music. Columbia University, Ed.D., 1968. Order No. 68-11,131.
Reviewed by E. Katherine Crews.

This study was designed to determine exactly what supervisors of student teaching in music can, should, and actually accomplish. It was limited to the following topics as they are related to the role of the supervisor of student teaching in music: basic assumptions and principles underlying student teaching supervision; formulation of objectives (principles of objectives: cognitive, affective, and manipulative or motor skill); responsibility for supervision; factors affecting the function of the supervisor; selection of cooperating schools and personnel; human relations and guidance functions; coordination of effort; assignment and orientation of student teachers; arrangement of seminars, lesson plans, observations, and conferences; common difficulties encountered and the techniques used to solve them; background of supervisors (academic, professional, abilities considered important, academic rank); and evaluation.

Institutions which met one of the following criteria were selected for the survey: have a student chapter of MENC, confer degrees in music or music education, be a professional school of music. A postcard questionnaire was first sent to these 904 institutions throughout the country to discover the existence of student teaching programs in music, the number of students in the program in 1965-66 (the year of the study), the name(s) of faculty member(s) who supervise student teaching in music, and willingness to complete a more detailed questionnaire.

The postcard questionnaire was returned by 516 (57%), 402 (45%) of which indicated existence of student teaching programs in music and 371 of which indicated willingness to complete the more detailed questionnaire. The latter was sent to 774 general (225 or 29%) and music (549 or 71%) supervisors at the 371 institutions and received a 40% return (226 music supervisors, 38 general supervisors, 44 returned unanswered). However, only 264 (35.5%) of the 774 detailed questionnaires were returned completed even though the postcards had indicated willingness to complete them. No indication is given as to how many of the 371 schools are represented by the returned detailed questionnaires. The postcards indicated that the average number of student teachers in music at each school was 13.67. Ranges were from 1-5 to 81-90; 208 of the 371 institutions had ten or less student teachers in music, and only 29 institutions had over 30. No information is given as to the number of student teachers in the schools of the supervisors who returned the completed detailed questionnaires.

The detailed questionnaire sought to determine what supervisors actually do, the supervisory techniques used which are most effective, and the supervisors' unique responsibilities as related to student teaching in music. From this questionnaire, general literature, and personal experience, Esselstrom formulated eighteen principles with recommendations which serve as guidelines for the role of the supervisor of student teaching in music. The principles are concerned with supervision, certification, human relations, liaison function, assignment and induction of student teachers, seminars, observation, conferences, guidance, evaluation, academic rank, selection-formulation-statement of objectives, learning experiences, competency, and problem solving.

Almost 56% of the supervisors have the rank of either associate or full professor, which implies that they have a fair degree of status in their institutions and that the position of supervisor is considered important enough by the institutions to assign their most competent personnel to it.

Questions regarding the academic preparation of supervisors of student teaching in music revealed that general supervisors usually have earned little or no credit in music courses. Music supervisors have earned most of their music credits in instrumental music; choral music and music history credits were substantial.

As to teaching experience below the college level, general supervisors most often had taught in the senior high school, whereas music supervisors tended to have had a more equal distribution of experience at various grade levels. Many have taught in grades one through twelve, mostly instrumental and choral music rather than general or theoretical music classes.

Esselstrom's explanations of the high standard deviations in the supervisors' instrumental and choral music credit hours and years of teaching is somewhat questionable. One wonders why he assumes the causes for these deviations when the answers to the questionnaire should have given him the facts.

General supervisors rated tact as the most important attribute a supervisor could possess, while music supervisors rated musicianship first and tact or human relations second. Both groups felt that the four most important abilities or qualifications for a supervisor are: musicianship, tact, analysis of teaching, and successful public school teaching experience.

The persistent or common difficulties encountered while supervising student teachers in music include musical problems related to conducting, ear training, and instrumental skills; lack of classroom discipline or communication with the children; the narrowness of music student teachers; and the scarcity of qualified cooperating school teachers. The major techniques used to solve these problems are conferences, seminars, careful selection of cooperating teachers, observation, lesson plans, self-evaluation, and demonstration lessons.

Four criteria for formulating objectives were derived from the literature on the topic as follows: objectives must (1) be stated in observable terms, (2) be specific enough to convey an unambiguous meaning while retaining a sense of purpose, (3) be developmental and returned to in ever-increasing depth at different levels, and (4) take into consideration the situation in which they will function, the subject matter, and the learning theory espoused.

Only 55% of the supervisors reported that they had formally stated specific objectives in observable terms. Since a greater percentage of supervisors indicated that their objectives determined content and activities of the student teaching program, they must have objectives which are not stated in writing.

Esselstrom carefully placed the stated objectives into the categories and subdivisions of the Taxonomy hierarchy as described in Taxonomy of Educational Objectives, Handbook I: Cognitive Domain, edited by Benjamim S. Bloom, and Handbook II: Affective Domain, by David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia. Major categories in the cognitive domain are (1) Knowledge, (2) Comprehension, (3) Application, (4) Analysis, (5) Synthesis, and (6) Evaluation. Objectives of the cognitive type are those which deal with the recall or recognition of knowledge and the development of intellectual abilities and skills. Major categories in the affective domain are (1) Receiving, (2) Responding, (3) Valuing, (4) Organization, and (5) Characterization by a Value or Value Complex. Objectives of the affective type are those which describe changes in interest, attitudes, and values, and the development of appreciations and adequate adjustment. Objectives of the manipulative or motor skill type are those which emphasize some muscular skill, some manipulation of materials and objects, or some act which requires neuromuscular coordination.

A supervisor who had never studied the Taxonomy hierarchy might become bewildered with the terminology used in the detailed questionnaire. This may account for the large number who indicated willingness to complete this questionnaire but did not. Even though the questionnaire required only a check mark for most items, it required much careful thought and effort for accurate completion.

The results of the questionnaire did not confirm the investigator's original thought that the supervisors would stress objectives at the lower levels of the domains. Rather, responses were fairly evenly distributed over all levels of objectives. The cognitive objectives which were checked by over 85% of the supervisors were: (1) Recall of the major facts about their student teaching situations (a 1.12 level objective) and (2) Synthesize by planning a unit of instruction for a particular situation (a 5.20 level objective). The cognitive objectives which were checked by less than 40% were: (1) Demonstrate comprehension by extending the trends or tendencies of situations (2.30 level) and (2) Synthesize by writing musical compositions for teaching situations (5.10 level).

The affective objectives in the upper levels were not checked as often by the supervisors as were the lower level objectives in this domain. The affective objective checked most often was: Most student teachers of music respond in a cooperative manner with the people with whom they work (2.1 level). The one checked least was: Most music student teachers' value systems are developed to the extent that they develop a consistent philosophy of music education (5.2 level--highest in this domain). The supervisors' responses to the two motor skill objectives reveal that a slightly greater emphasis is placed upon the acquisition of the common motor skills required of the students in classroom music (grades 1-12) than upon more complex skills.

Esselstrom concluded, "Objectives in the cognitive, affective, and manipulative or motor skill domains were checked by supervisors in a fairly equal distribution throughout all the levels of the three domains. Fewer responses to the higher levels of the affective domain were the only noticeable trend. The bases for evaluation stress knowledge of the subject matter and the student teacher's ability to work with the group he is teaching."

Because of the scarcity of literature related to student teaching in music, Esselstrom depended rather heavily upon literature concerned with student teaching in general. Therefore it is difficult to determine, in many cases, whether or not his findings and/or recommendations would be truly significant for student teaching in music. For instance, the "tendency to limit the number of cooperating schools to less than eight to each supervisor" (page 56) is more characteristic of the general program since there frequently are several cooperating teachers in each school, whereas there usually are not more than one or two music teachers in a school to serve as cooperating teachers. The same is true of the statement that "the principal of the school can offer suggestions as to the teachers who would be most effective and willing to work with student teachers" (page 63). Usually, however, Esselstrom was effective in indicating factors in general teaching that point toward more effective music teaching.

The dissertation is a noble attempt to define and describe something which is essentially quite elusive. Its title might well have been "The Formulation of Objectives for Student Teachers in Music," except that much more is included. If supervisors studied this dissertation, they would be better able to formulate such objectives and to assist their student music teachers.

Fierbough, Harry Wilbert, Jr. The Development and Evaluation of a Series of Sound-Films for Music Teacher Training Education. State University of Iowa, Ph.D., 1963. Order No. 64-3368. Reviewed by Donald Shetler.

PROBLEM

The purpose of the study was to develop and evaluate a series of sound-films designed for music teacher training. Fierbaugh cites early films designed for military training, the pioneer work of C. R. Carpenter and the 1961 edition of the Filmguide for Music Educators. He also refers to Kjelson's 1957 study, and indicates the need to explore the area more fully. At the time the dissertation was being written there were no other closely related studies. Fierbaugh echos many of us who found a limited number of studies of this type in the 1960's.

PROCEDURES

Reviews of several attempts including Kjelson and Stevens indicated uneven results at best. Fierbaugh's procedures were to develop a 16mm sound film titled "The Scale" for use within a traditional five-day unit with "activities approach" questions for evaluation. The production was unrehearsed but designed to elicit criterion response behavior. The fun song, "Hot Dog," raised the question, "Why is scale important?"; a sequence showing scale steps using traditional "Do, Re, Mi" approach called for active involvement of the learners. Visuals included feltboard and a magnetic music staff. Emphasis was on "do" approach. The teacher also used a variety of bells and plastic keyboards which still are, for some reason, considered an advanced pedagogical technique. Were the films being produced today, he might use an electronic keyboard, an overhead projector and a variety of other mediate approaches.

Evaluation of this film: The crucial task in the procedure was arrived at by administering a 25-item multiple choice test. Non-parametric statistical techniques were used to report the results.

Fierbaugh includes an extensive explanation of non-parametric statistics, certainly needed for music educators who are more familiar with parametric procedures.

CONCLUSIONS

The resulting data indicated that "the films had no systematic effect upon subjects' understanding of an approach for teaching general music."

The "film instructed" group had a greater understanding of the approach for teaching general music than the control group.

Summary and conclusions: Fierbaugh comments on the population used for evaluation and implications for teacher training. Because of limited testing for validity, he is predictably conservative regarding the specific exercise. Fierbaugh's enthusiasm for strategies being used for teaching was reinforced by what he saw in the films.

The test designed for evaluation dealt with the method used more than the potential response of the learner. The subject's understanding of general music concepts (teaching) was not clear. One must "see" or "be there" to have even a basic understanding of "general" music instruction. In this sense, a film or videotape is the appropriate record for analysis. Finally, the traditional general music approach, activity centered, and structured to elicit low-level response, is still open to question.

To be sure, use of statistical tests is highly recommended with a wider sample. However, statistical justification is not necessary to defend a technique now validated widely in use of videotaped sessions. Dr. Fierbaugh's objectives may not have been successfully attained in this study if we limit our examination to the data. However, more recent studies certainly justify the procedures he pionnered. Professional teacher education must use the newer technologies to maximum advantage to prepare teachers for today's schools.

Fitzpatrick, James B. The Development and Evaluation of a Curriculum in Music Listening Skills on the Seventh Grade Level. University of Iowa, Ph.D., 1968. Order No. 69-8734.
Reviewed by Roger J. Folstrom.

Fitzpatrick has taken on the monumental task of designing materials for teaching a seventh grade general music class. The general objective of the course was to develop "a more enlightened seventh grade general music student through increasing his ability to make objective judgments about music" (p. 7). This was to be accomplished through a "variety of activities designed to develop an increasing knowledge of music as it relates to the life of the student, through the development of certain skills, knowledges and sensitivities. . . ." (p. 25).

The specific objective of this study was to structure a course of study which would lead to a significantly improved approach to teaching students how to listen to music. Fitzpatrick bases this study on his belief that "content in a course designed to train listeners should focus on those characteristics of music which are both audible to the listener, and common to the wide range of music literature a contemporary listener may be expected to encounter" (pp. 32-33).

PROCEDURES

Three groups were utilized for this study. The experimental group was a seventh grade general music class of thirty-two students (15 boys, 17 girls) at the University School, University of Iowa. The class had general music fifty-five minutes daily for one semester (82 sessions). This class was "above average" in school achievement and participation in performance organizations.

Two control groups were used. The first control group was a general music class in a regular public school. There were forty-seven students in this class (22 boys, 25 girls). Of these students twenty-six participated in performance organizations. This class met every other day for the entire school year. Each class period was fifty minutes. Although the socioeconomic level of this community closely resembled the population of the University School groups, the scholastic achievement of this control group was slightly lower. The boys were taught by a man, and the girls by a woman. Instruction by both teachers was termed excellent and followed the traditional activities pattern with an emphasis on singing. The second control group was a seventh grade class at the University School, University of Iowa. This class received no general music instruction during the semester of this study. There were twenty-six students (15 boys, 11 girls). Of these students twenty participated in a performance organization. This class was not as high scholastically as the experimental class.

A source book of material for the general music experimental group was written and divided into the following course content areas:

Content Area I	20 periods	Rhythmic Materials
Content Area II	30 periods	Tonality
Content Area III	10 periods	Form and Structure
Content Area IV	7 periods	Texture
Content Area V	7 periods	Tone Color
Content Area VI	6 periods	New Compositional Techniques

The typical class day consisted of (1) singing familiar songs, (2) dictation exercises, (3) work on semi-familiar or new singing material, (4) introduction of new theoretical or listening material, (5) discussion of new material, (6) special events (student performances, concert reviews, etc.), (7) quick review of new theoretical or listening material, and (8) singing for fun. The above activities were studied by either the comprehensive or in-depth approach. All of the musical elements were related to a wide range of musical works. Serious music was approached from a study of music (popular, stage, and rock and roll) with which the students were most familiar. Fitzpatrick indicated two advantages in approaching serious music in this manner. First, familiar music helps to maintain a high level of class interest, and second, it is not difficult to apply techniques found in familiar music to serious music. A four step procedure was established for listening to compositions.

1. Listen to the composition in its entirety.
2. Discuss in general terms the over-all design of the composition.
3. Discuss in detail the prominent features of the composition.
4. Listen again to the complete work.

Thus, the students' attention is gradually directed from the whole to its parts and back to the whole again. Listening activities were designed to evaluate the content, materials, and teaching techniques of the Source Book.

EVALUATION

A listening achievement test was devised and administered as a pre- and posttest. It consisted of three subtests:

I Melody (eighteen multiple choice items)
II Form and Structure (twenty multiple choice items)
III Tone Color and Texture (eighteen multiple choice items)

The Listening Achievement Test was subjected to extensive analysis and had a final reliability of .75. The sixth grade administration of the Iowa Test of Basic Skills composite grade-equivalent score with Iowa norms was used as a covariate with the analysis. A series of two-dimensional factorial designs was utilized to analyze the data.

The major null hypothesis that no significant differences existed between scores of students in the experimental class and students in the control groups on the Listening Achievement Test was rejected (.05 level). Secondary null hypotheses to be tested were:

1. There is no significant difference between mean scores of boys and girls on the Listening Achievement Test.
2. There is no significant difference between mean scores of performers and nonperformers on the Listening Achievement Test.
3. There is no significant difference between mean scores of instrumentalists and noninstrumentalists on the Listening Achievement Test.
4. There is no significant difference between mean scores of students who play chordal instruments and students who play single-note instruments on the Listening Achievement Test.
5. There is no significant difference between mean scores of boy instrumentalists and girl instrumentalists on the Listening Achievement Test.

The F value for treatments was statistically significant (.05 level) on all subtests. The five secondary hypotheses were tested for each subtest and the composite for a total of twenty tests. Of these twenty results only two were statistically significant (.05 level). These indicated that sex comparisons were significantly different in Subtest II (From and Structure) i.e., girls had higher mean scores than did the boys. Second, performers' mean scores were significantly different (higher) than nonperformers on Subtest III (Texture and Tone Color).

In the general appraisal of the course Fitzpatrick reports that experimental group members reacted favorably towards the course. It produced a great deal of interest in local music activities, stimulated the purchase of recordings, and students seemed to enjoy attending contemporary music concerts. Class behavior during the semester and during the remainder of the year indicated that the objectives of this general music course were fairly well satisfied (p. 87).

Comments

Dr. Fitzpatrick has added an interesting and valuable study to the expanding groups of fine dissertations related to the problem of developing listening skills at the junior high school level. In order to accomplish this mission he had to structure the content of the class, teach it, and devise a systematic manner of evaluating it.

The source book, included with the dissertation, is an interesting, highly detailed, and well-researched document. Content areas are defined, numerous materials developed and worksheets provided for student use. Specific suggestions for singing and listening are included in most areas. The source book should be reviewed by all teachers and music education students interested in the general music class. An interesting aid to finding the beat subdivision was suggested: "teach-er" for duple and "prin-ci-pal" for triple. The depth and amount of material is probably too much for an average general music class unless it were superbly organized and taught by an outstanding teacher.

Obviously, Fitzpatrick is a master teacher because he was able to organize the material from lesson to lesson in a meaningful and relevant manner. One drawback of the study is its omission of a sequence of study except in general terms. Also, it would have been valuable to have the course content of the control group delineated. It was referred to as a typical course with emphasis on singing. This reviewer has not found many "typical general music courses" that were not basically substandard to what they could be. What effect did daily contact for one semester instead of every other day for two semesters have on the results?

The study is relatively interesting and easy to read. The reader is spared from wading through ponderous tables, graphs and endless statistical descriptions. In his style of writing, however, Fitzpatrick often makes generalizations which do not enhance his argument or always make good sense. For instance, he states, "Seldom is the (elementary) student asked to describe from his aural experience with a composition anything relating to the organization of the musical materials of the piece" (p.3). "Performance has been, and still is, the backbone of music education in secondary schools" (p.4). Does this include the junior high school? If so, how should general music and performance be used? "Contemporary general music class in the junior high school does not meet the needs of the student" (p.7). This is an excellent, well-intentioned statement; however, no discussion of this point ever follows.

Many excellent related studies were discussed. It seems lacking in that no mention is found of prominent authors such as Reimer, Hughes, Monsour, Leonhard, or Hoffman, who have contributed so greatly to the area of general music in the junior high school.

In these days of emphasis on behavioral objectives, conceptual approach, and aesthetics, the reviewer must take some exception to the organization of the course of study by the activity approach rather than adjusting and, in a sense, subjugating the activity to the concepts and objectives of the day. To end each class with "Singing for Fun" is a giant step backwards! Does this imply that the remainder of the lesson was not fun?

Lastly, this reviewer would be interested in how the researcher would restructure his course of study today in light of modular scheduling, better equipped Instructional Materials Centers and different ideas in approaching classes of this type. The study seemed very teacher directed. Would it not be interesting and worthwhile to implement our creed regarding "student interest and need" by bringing them into the planning of such a class?

The study should be replicated with a larger population, other general music teachers should try to teach it, and as the researcher admits, the Listening Achievement Test should be subjected to further study. It is a good study, done by a sensitive musician and teacher.

Fleury, Robert Myrl. The Objective Measurement of Group Instrumental Music. University of California at Los Angeles, Ed.D., 1963. Order No. 64-2240.
Reviewed by Gordon Sandford

Anyone who has had any connection with a school music festival will have some notion of the headaches, heartaches, and soul searchings which are an inevitable part of the adjudication process. The adjudicator will be deeply concerned about the accuracy and fairness of his comments; the school music director will be even more concerned that criticisms received are valid, reliable, and constructive; and the festival administrator finds himself in the middle, not daring to side completely with either. Worst of all, the student founders in complete bewilderment.

Evaluating musical performance is, of course, an extremely difficult task, yet no true musician would have it otherwise. Music is quite unlike sports, where, at game's end, each team has an exact number of points and wins, loses, or ties when its score is compared to its opponent's. Certain musical factors can be measured objectively, to be sure (pitches, rhythms, tempos, and amplitudes), but other factors are completely subjective and thus beyond direct measure. The magic blend of objective and subjective is a real enigma. I vivdly recall a concert by the cellist Piatigorsky in which there were measureable inaccuracies galore, yet, despite the far from perfect performance, we were all thrilled. Piatigorsky had projected the essence of the music beyond quibble. The intangibles more than compensated for the tangibles, and judgment in this case could not be reduced to any simply equation. Thus I find myself apprehensive when someone attempts to be too objective in evaluating musical performance.

Nevertheless, while this dissertation leaves unsolved many of the problems of school music festivals, it does approach these problems in a very constructive way. Fleury's definitions of terms, although not as conveniently organized as one might wish, contain a large amount of helpful information. His Music Classification Form, used to describe the difficulty of various compositions on a scale from one to five (easy to difficult), is while not above debate, one of the most complete systems known to this reviewer. The lists of festival benefits and of physical factors affecting performance, while not unusual, are useful as checklists for this sort of information.

Two factors are unique in this study, according to the author's claim: (1) the weighting of various factors involved in the judging of music and (2) the arrangement of these same factors into aural and visual categories. Unfortunately, these unique features seem to be the weakest portions of the dissertation and issue must be taken with them.

Regarding the first: no one would question the premise that some factors are more important than others in a musical performance. But the relative importance of these factors varies with each piece of music, with each style of musical composition, and, ultimately, with each auditor. In not recognizing this variability (i.e., by creating a fixed weighting of the factors), Fleury misses a very important point. His conclusion, for example, that "tone" is three times as important as "rhythm" or that "interpretation" must be given three times as much weight as "technique" is not only debatable but completely misleading. Musical performance can be analyzed and the factors involved can be weighted, certainly, but one cannot simply average these factors in cold statistical ways. Music cannot be reduced to numbers and treated objectively without making it something it is not: a mechanical and non-aesthetic thing.

Regarding the second of the unique features: arranging of performance factors according to "visual" and "aural" does not hinder judgment, but it does not help either. We are never told just how to combine aural factors with "stage deportment," "selection of pieces," or "instrumentation." These extra-musical factors (not all of which, incidentally, are "visual") are undeniably important to music teachers, but I am not sure, nor is Dr. Fleury, of what role they should play in a composite festival rating.

In creating standards of instrumentation, Fleury refers to absolute standards set for bands and orchestras by national organizations. More important, it seems, would be how the instrumentation fits the particular piece of music. A Mozart orchestra should be quite different from a Wagner orchestra, a Beethoven orchestra, or a Bach orchestra, for example.

Also important in musical performance, yet omitted from consideration in this dissertation, are the many unwritten indications of performance practice in a musical score. This sort of thing varies widely from era to era and from one sort of music to another. In Mozart it can be the absence of a precise tempo marking; in Handel it might be the absence of a realized figured bass; in jazz it could be the "square" performance of a group of eighth notes. Some would shrug these off as musicological niceties, but they indicate the presence of absence of true musical understanding. Somehow adjudicators must be trained to take this sort of nuance into account or risk being classed as myopics.

Unfortunately, careless editing and proofreading mar the manuscript. "Audia-visual" for audio-visual (p. 95), "wogether" for together (p. 95), "een" for even (p. 149), "develope" for develop (p. 4), and "slassification" for "classification (p. 180) are typical of the errors which should have been noticed and corrected. Carl Seashore is said to have created his test of musicality at Stanford rather than Iowa (p. 111), and personal opinion is said to be not empirical (p. 9). These minor flaws do not, however, alter the basic content.

I was fascinated with Fleury's remarks on the effects of experience on adjudication (p. 149). Apparently adjudicators mellow with age, which is probably a good sign. Hopefully the same is true of persons who write criticisms of doctoral dissertations.

Fleury has compiled an impressive amount of information regarding a very important topic, and his work must be considered as a positive contribution to music education. What he has to say can and should serve as basis for healthy debate for some time to come. Even if it were possible for us to obtain complete agreement within our time, another generation would still find it necessary to evolve its own standards. Music is too big to be confined within the strict limits of any objective system for any length of time.

It is always beneficial to study factors which comprise good performance, for there is always something to be learned or recalled. In fact, it is imperative that we continually seek the elusive goal of perfect performance.

Folstrom, Roger James. A Comparative Study of the Musical Achievement of Students in Three Illinois High Schools. Northwestern University, 1967. Order No. 68-3180.
Reviewed by Robert G. Sidnell.

This study was designed to investigate the musical development of high school aged youth. Specifically, comparisons were made between students enrolled in choral performing groups as opposed to those not enrolled in a music activity. Although not stated in the "statement of the problem" chapter the hypothesis of the study was that, "students who participate in performing groups will not achieve significantly higher than those not in a performing group." (p. 109)[1]

METHODOLOGY

A short chapter which contains reviews of literature pertinent to the problem under study follows the traditional introductory chapter. Only one experimental study dealing with achievement evaluation is cited directly. Most of the sources included are quasi-philosophical viewpoints apparently included to support the hypothesis as noted in the previous paragraph. Also included in Chapter II are annotations of extant musical achievement tests. The researcher is careful to state that they are either out of print, unavailable or inappropriate for the study. The test chosen was the Aliferis Music Achievement Test: College Entrance Level.[2] Substantial reasons are identified for the use of the test and its limitations are duly noted. This test measures music achievement in terms of aural-visual perception. There are three sections: rhythm, melody, harmony. Testees are asked to correlate a visually perceived stimulus to an aurally perceived stimulus.

The design of the study was a pre-posttest administration to a large high school population. The original sample was to have been 2,000 but severe (58 percent) attrition reduced the pretest N to 1168. The pretest was administered early in Fall of the academic year 1965. The posttest was administered during the closing weeks of school, June 1966. Mortality between testings was again unfortunate (47 percent). Subjects were students attending four high schools adjacent to or near Chicago, Illinois. One high school failed to produce a large number of subjects for the posttest and the eventual sample size became 640. Later eliminations due to supposed biases reduced the sample size to 496 representing three schools.

In addition to the two test administrations, students were asked to complete a questionnaire. The questionnaire was administered during the pretest. Thes procedure was employed to secure nominal data regarding past musical experience, age, grade, vocational goals and the like.

Data obtained from the testings were analyzed using the analysis of covariance technique. Pretest scores functioned as the covariate and in effect became the independent variable. This technique permits the making of unbiased comparisons in posttest scores.[3] Due to the large difference in the number of observations it was necessary to adjust the sums of scores as suggested by Tsao.[4] Upon finding significant differences by way of the analysis of covariance, the Newman-Keuls comparison of means test was used to determine statistical significance between the various subgroups of the sample and the several areas tested by the Aliferis Test.

Questionnaire results were reported in frequency by percentage but not related to test scores. The researcher promises future publication of these data and attendant findings.

RESULTS

As a result of this study, the investigator was able to conclude:

1) "performing students of the sample scored significantly better in each portion of the test after nine months of musical study than students' scores of those not in any musical activity."[5]

2) Significant differences were found between experimental and control groups in each of the three schools comprising the sample. Two exceptions were noted; in one school the harmonic portion of test revealed no significance and in another the melodic form of the test was null.

3) Significant differences were found between each of the three school populations tested.

4) Several of the means of the control groups also appear to have differed significantly from each other, which could indicate that some musical growth or maturity takes place even without musical instruction.

A great number of other statistical significances were recorded but this reviewer believes the above statements reflect the spirit of the findings.

CRITIQUE

The researcher is to be commended for selecting a problem vital to the enterprise of music education. If an individual randomly selects a broken branch from the ground in a forest, he could measure the distances between trees. He would only know that two given trees grow X many stick lengths apart. That is all. Unfortunately, evaluation in music education suffers from similar crudeness. This dissertation aids in bringing the crudeness into sharper focus but only indicates, again, the need for more precision. Those interested in evaluation can gain from the results of this study. There is a reiteration of need as well as indications for design and analysis which can make future studies better.

According to the author of this study musical achievement will be measured by means of "aural-visual perception." Is this to be the definition of musical achievement? Later the author admits other aspects of music achievement to include "sense of style, aesthetic sensitivity, and knowledge of music history."[6] There is no attempt to identify student competencies in any of the latter areas. Perhaps when a sizeable sample is assembled for purposes of measurement it would be appropriate to take a stab at test construction and possible subsequent standardization. Certainly, the Aliferis test does not come close to filling the need for achievement testing of desired terminal behaviors in music education. Indeed, the author makes a significantly singular case for the need for evaluative tools in line with current music education thought in Chapter II.

The literature the investigator chooses relates more to objectives needing evaluations than to evaluation procedure itself. This reviewer questions the need to cite articles dealing with what ought to be in music education. One wonders why more of the avhievement testing studies in music and other areas are not cited. Studies by Colwell, (1961), Dale (1956), Ferrante (1953), Fisher (1949), Kane (1950), and Snyder (1958) might have aided in designing the study to be more inclusive.

In Chapter III, data from the background questionnaire are presented. Several of the questions include the usual communication problems of questionnaires. An attempt is made to gather ordinal data but the best that a collator can assume is nominal level measurement. For example, students are asked, "If you have studied voice in the past, state the number of years of private study." One can only be sure from the reply that there has or has not been study. The numerical data would be imprecise. One interesting bit of data relating to participation in out-of-school music activities seems noteworthy. In several instances control students indicated greater informal musical involvement than experimental students. The author promises further analysis of achievement in relation to the variables identified through the questionnaire. Such publication may shed considerable light on the informal musical behaviors of young people. The author's commitment to the scholarly community is clear.

This reviewer notes, with alarm, the massive mortality within the experimental population. It is devastating to plan and launch a study of this kind and suffer such high attrition. Among the causes for the dropouts the author indicates:

1) change of schedule,
2) mid-year graduation,
3) absenteeism,
4) lack of interest in taking the test,
5) invalid test,
6) conflicting school events (sports).

An accurate quantification of the frequency of these causes might have been of interest to the reader. Particularly in the case of #4. From the pretest sample (N=1168), a total of 462 (59 percent) control students were lost while only 86 (22 percent) experimental group members dropped out. Certainly the make-up of the attrition population will severely effect the variance of the scores. This fact becomes particularly noteworthy if related to reasons "4" or "5" noted above. Although the control group was randomly selected, the dropout portion of this group may not have resulted from random causes. It is equally unfortunate that the test sample did not include a group of subjects involved in instrumental or perhaps non-performance music classes.

The researcher employed appropriate statistical techniques and was able to reject the null hypothesis at the .05 or .01 levels in almost all comparisons. There is a statistically significant difference between music enrollees and nonenrollees in Aliferis achievement. Is there practical significance? For example analysis of covariance and subsequent Newman-Keuls analysis show significance between experimental and control groups of school A. This significance is evident in all portions of the test. As indicated in Table I, the differences between groups on any given portion of the test appear small.

TABLE I

UNADJUSTED MEANS FOR SCHOOL A

Test Section	Experimental Group N = 72		Control Group N = 153	
	Pretest	Posttest	Pretest	Posttest
Rhythm N = 20 items	9.66	10.86	5.45	6.20
Melody N = 26 items	9.63	9.31	7.03	7.30
Harmony N = 18 items	5.40	5.87	4.93	5.01
Total N = 64 items	24.70	26.05	17.42	18.49

Furthermore, the computation of mean gains reveals the following data:

TABLE II

MEAN GAINS FOR SCHOOL A

Test Section	Experimental Group	Control Group
Rhythm	1.2	.75
Melody	- .32	.27
Harmony	.47	.08
Total	0.35	1.07

Again differences are very small when the number of items on the test is considered. The issue at hand is: Just how meaningful is the difference between experimental and control groups even though it may reach statistical significance?

Probably due to an oversight, the researcher did not report an important piece of descriptive data. This reviewer would like to have seen the standard deviation for each section of the test in relation to each sample group. It would be valuable to know the discriminative power of the test especially within control group populations. Did any of the control testees do well? The investigator concludes that the Aliferis test, "proved to be very difficult for high school students except for those involved and interested in music."[7] The data do not wholly support this statement. Scores earned by music students do not shatter the upper percentiles. Clearly the Aliferis test is measuring a musical behavior of an extremely esoteric nature, a behavior probably evident in the small population which elects music as a major during undergraduate matriculation.

The investigator concludes his paper with twenty-three questions which need answers. These answers will be provided by comparing the nominal questionnaire data and Aliferis achievement. Implications for future study include measurement of student achievement in relation to teaching approach. Further suggestion is made indicating the need for new tests. Such test construction will have to await decisions regarding desirable behavioral outcomes for music education.

FOOTNOTES

[1] Roger J. Folstrom, "A Comparative Study of the Musical Achievement of Students in Three Illinois High Schools," Unpublished Ph.D. dissertation, Northwestern University, 1967.

[2] James Aliferis, Aliferis Music Achievement Test: College Entrance Level (Minneapolis: University of Minnesota Press, 1950).

[3] B. J. Winer, Statistical Analysis in Psychology and Education (New York: McGraw-Hill Book Company, 1962), pp. 578-621.

[4] Ibid., p. 319.

[5] Folstrom, op. cit., p. 105.

[6] Ibid., p. 6.

[7] Folstrom, op. cit., p. 113.

REFERENCES

Colwell, Richard J., "An Investigation of Achievement in Music in the Public Schools of Sioux Falls, South Dakota," Unpublished Ed.D. dissertation, University of Illinois, 1961. Reported "An Investigation of Musical Achievement," Journal of Research in Music Education, Fall, 1963.

Dale, Ralph A., "Blueprint for Evaluating Musical Growth," Unpublished Ed.D. dissertation, Columbia University, 1956.

Ferrante, Anthony C., "The Construction and Validation of an Achievement Test of Musical Knowledge for Grades VII-XII," Unpublished Masters thesis, Boston University, 1953.

Fisher, William R., "Fisher Measure of Musical Appreciation," Unpublished Ed.D. dissertation, Boston University, 1949.

Kane, Allen S., "A Correlative Study of Musical Aptitude and Music Appreciation as Measured by the Seashore Measures of Musical Talent and the Fisher Measurements of Musical Appreciation," Unpublished Masters thesis, Boston University, 1950.

Snyder, Alice M., "The Development, Construction and Standardization of a Test of Music Achievement," Unpublished Ed.D. dissertation, University of Oregon, 1958.

Freebern, Charles L. The Music of India, China, Japan and Oceania: A Source Book. University of Arizona, A.Mus.D., 1969. Order No. 70-6670.
Reviewed by Robert E. Nye

This reviewer's attention was drawn to this title by the vastness of the subject and the comparatively small number of pages of manuscript (163) devoted to it. The researcher explains that the music educator views the subject differently than the ethnomusicologist does, and cannot be expected to be involved in as great a depth.

The purposes of the study were to provide a source book incorporating succinct information regarding the cultural development of India, China, Japan and Oceania, to present facts concerning the music of these cultures and to suggest materials which are currently available for individual self-study and enrichment. The researcher makes clear that his document is not intended as a definitive ethnomusicological study of the cultures cited. He regards it as an overview which "might" serve as a guide and resource for classroom use. (The music educator is greatly concerned about seeking materials for such use and finding exceedingly little.) A tape recording was prepared as a helpful aid for proper pronunciation of the many foreign musical terms found in the study. The tape was made by persons to whom the various languages are the native tongue.

The researcher built a solid case for the inclusion of non-Western music in United States music education, drawing on a number of sources including the Tanglewood Symposium. He found that although considerable work has been done by ethnomusicologists, little of this has entered our school classrooms. Berger was quoted to the effect that the music educator must become cognizant of this research and must select from it what he needs for the content of his school music curriculum. The researcher stated that "Teaching materials from non-Western cultures must be prepared and published in a form and format usable by the music educator." His part of this process was to make available a source book which brings together a variety of pertinent data and to leave to others the task of adapting these for classroom use.

This study is assumed to be helpful to the music administrator, who might draw upon the compiled information for purposes of in-service education for his staff; the university professor is to find it useful as an introduction to the study of non-Western musics; the music specialist and classroom teacher in the schools are assumed to select portions of the information for their use.

The compiling of data regarding each geographical-political segment of this vast region gives the study a humanities orientation because of the brief descriptions of aspects such as race, religion, language, climate, history, standard of living, literature, economics, geography, art and architecture. The music sections consist largely of definitions of musical terms and descriptions of instruments. These are followed by sections in which resource materials are listed: books, articles, recordings, and films.

In the concluding chapter the researcher recommends that music educators and ethnomusicologists collaborate in preparing suitable materials for school use. He finds that "There is a dearth of song literature and other appropriate materials from the cultures included in this study which are available for school use," a fact the music educator has realized for some time. The implication seems to be that while definitions, descriptions, and listed materials have some value, what is of most value to the music educator is precisely what this study was not designed to do: prepare song literature and other appropriate material in learning packages of immediate utility in the classroom. Instead, this responsibility is placed on the already-too-busy teacher in service, "He must become involved in the development of appropriate materials dealing with ethnic musics."

There are interesting items such as the neglect of folk music in India which results in its being largely rote and not notated, and the information that three pentatonic scales widely used in Japan each contain two half-steps. One can wonder about the use of the cymbal in Chinese theaters: "Their use is primarily to make a rapid succession of notes in theater music; this makes it very difficult to hear the words of the actors." There are twelve good drawings of instruments. While these are welcome, only twelve illustrations among the very large number of instruments discussed makes the reader desirous of a great many more. An additional recording would have been helpful to portray accurately the types of vocal tone believed best in each culture. The chapter on Oceania leaves much to be desired because so little information is available, and because a doctoral study could be made in depth in any one locality, the Tonga Islands, for instance.

In that the researcher accomplished what he set out to do, this is a successful dissertation. On the other hand, it is only because of the infancy of the non-Western music area in music education that this proposition can be accepted as a doctoral study.

Garofalo, Robert Joseph. The Life and Works of Frederick Shepherd Converse (1871-1940). The Catholic University of America, Ph.D., 1965. Order No. 69-19,710.
Reviewed by Kenneth Wright

Every music history text pauses dutifully somewhere between Impressionism and Bartok to pay lip service to our first generation American composers. MacDowell, of course, rates a paragraph but the Buston school of Paine, Chadwick, Foote, Parker, and Converse generally receives even shorter shrift. Small wonder for their works have all but disappeared from the concert hall; who among us has recently heard a performance of Hora Novissima, Tam-O'Shanter, or The Pipe of Desire, the latter the first American opera to be produced at the Metropolitan Opera?

We know little about the music of these composers, and we know even less of their lives and activities. The loss is ours because a colorful and idyllic chapter in our nation's musical adolescence is never thus brought to life--music from the America of barbershop quartets, banjos and broad front porches, horseless carriages, band concerts in the park, a period which we may look back on rather wistfully from our present bleak ramparts.

The Garofalo thesis spotlights this 1890-1930 period in a double-barreled approach to both the life and the music of Frederick Shepherd Converse, the last, and perhaps the best of the Boston-Leipzig-Munich Romantics. Taking on such a double challenge, the author should receive plaudits for effort; if Converse and his period never quite come to life in the personal, vivid way a full-scale biography might flesh out the past for us, at least the facts are there. It may be that a more fictional approach would have been required to make us empathize with Hasty Pudding activities at Harvard in the Nineties, the tracing of the Converse family tree back to the eleventh century, or a quotation from his fiancee's diary..."he certainly was wretched in that office" (referring to the composer's three month's servitude in the business world before deserting Mammon for the Muse).

The relative proportions of the Garofalo study may also prove deceptive. Out of 280 pages 151 are devoted to the composer's life, and only 66 to an analysis of his music. And the 61 page appendix subdivides into 26 pages of biographical miscellany (including even Converse's 1897 report card from his Munich Academy days!) versus a 24 page chronological listing of his works. But the thesis does just what its title imples--it concerns itself not only with his music, but with his life; on these grounds no musician should fault the author. Despite the seeming brevity (those 66 pages, supra) the musical analysis is thorough and sensible: Chapters 7 and 8 could be recommended models for melodic and rhythmic analysis format in any thesis.

Not all studies can be so luxuriantly framed with primary source materials, relevant and irrelevant. Personal family records and diaries made available by the composer's daughter, Library of Congress sources, and Boston and New York library archives were all utilized, and the author has done conscientious duty by all his sources. Almost like a J. P. Marquand novel seems the account of Converse's life--a gracious individual born to Boston wealth, with never any financial concerns all his life, intelligent, handsome, urbane, a devoted family man (the father of seven children), an indefatigable worker with habits which would make most composers blanch ("I'm always ready to work at five-thirty in the morning")--surely here was a success story in the best American tradition!

But never mind. Despite his charmed life, Converse's musical accomplishments were substantial. The author lists 150 significant works in many media including 4 operas, 5 symphonies, 23 piano works, some 38 songs, and 22 chamber works. Ironically composer Converse is probably best remembered for his 1927 salute to Detroit: Flivver Ten Million. This now-dated orchestral work with its Ford auto horns, and factory whistle toots seemed at that time Boston's answer to California and to that famous iron horse of Honegger, Pacific 231.

One of the interesting sidelights of this thesis deals with American opera in the beginning years of the 20th century. There was then, as always, the Met but other cities also had their opera companies. Boston's was, as we might suspect, one of the best during its brief life (1908-14)[1] and naturally one of the prime organizers, vice-president, and stalwart forces in this venture was Converse. In 1911 Boston produced his second opera, The Sacrifice. The previous year was an even more important event at the rival Met: his The Pipe of Desire was first produced there, the first opera by an American to see the light of day at this famous citadel: An opera in English, and with an all-American cast! The flood of criticism, journalism, and plain verbiage which followed this historically important event almost obscured the fact that the production was carefully prepared, and lavishly mounted, and that Gustave Mahler himself had selected the score from more than a half-dozen ones submitted.

That the period 1900-1940 with its violent style changes was a fatal one for many American composers is a truism. Be it to Converse's credit that he seemed to move nimbly from the thick Leipzig-oriented post-Wagnerian texture to whole-tone-and-seventh-chord Impressionism and just as graciously into the mazes of quartal harmony, and bi-chords, even clusters. His mild polyrhythms likewise reflected some of the rhythmic experiments of the Twenties. The occasionally annoying scraps of Americana which surface from time to time--banjo rhythms, embarassing fox-trot patterns, vaudeville flourishes, and the too-squarish Indian melodies may repel some fastidious critics today. But if we accept the whimsy and hodge-podge that is often a part of Ives then we must by the same token not brand Converse for the same periodisms.

Whatever his stylistic penchants, Converse consistently excelled in one aspect; he was a brilliant orchestrator, probably the best of all the New England group, and he seemed equally at home with the lush German orchestra, the more refined timbres of Impressionism, and even some unusual pointillistic flavors--antique bells, and the basset horn, to mention two.

An interesting study of an interesting composer, the Garofalo thesis may inspire other delvings into the lives and times of our neglected American composers. For those who might ask why, Copland had a very realistic answer in his The New Music when he said "Geniuses don't grow on little bushes... The great American composer... will come out of a long line of lesser men--half-geniuses, perhaps, each of whom in his own way and with his own qualities will prepare the way for our native music."[2] Surely somewhere in this hierarchy of greater and lesser saints Converse should have a perpetual candle.

FOOTNOTES

[1] "During the height of its existence the Boston Opera Company rivaled if not surpassed the Metropolitan Opera Company." (p. 44)

[2] Aaron Copland, The New Music 1900-1960 (New York: W. W. Norton, 1968), p. 100.

Gerrero, Richard H. Music as a Film Variable. Michigan State University,
Ph.D., 1969. Order No. 69-20,859.
Reviewed by Thomas S. Brown

In a highly original study, Dr. Gerrero has examined the effect of background music upon the meaning of educational motion pictures. His measure of meaning was a form of Osgood's semantic differential (SD), the adjective scales being selected from those employed in previous studies of film and music.[1] The instrument was refined for the specific purposes of the study by factor analyzing the scores obtained when the scales were used to rate, separately, segments of music and film. The results of this analysis enabled the researcher to choose for his final version only those scales with approximately similar loading patterns on both film and music. Tests were also performed which demonstrated that the procedure was acceptably free from practice and order effects.

Much of the study was devoted to the examination of relationships between the meaning of film-with-music and two constructs: structure and congruency. The structure of a film or music segment is the relative amount of agreement among observers as they rate the segment on a SD. The degree of this consensus was determined by summing the squares of the scalar differences between all possible pairs of observers. The nine musical segments and the nine film segments which served as stimuli were selected so as to cover a wide range of structure.

The similarity between SD ratings of music and film segments provided the measure of "congruency". If corresponding scales were scored in the same direction for a musical segment as for a film segment, the combination of the two segments was called "congruent". If, however, many opposite meanings were attributed to the stimuli, the pair was "incongruent". Thus, a peaceful scene on the motion picture channel accompanied by fast vigorous music could be expected to form an incongruent combination.

After each segment of music and each segment of film had been rated separately, various segments of music and film, respectively, were combined for simultaneous presentation. These combinations were organized in such a way that their members were of different levels of structure. The congruency of each combination was determined and a second group of observers then rated these film-with-music stimuli.

Each of the film segments was presented with two different musical accompaniments. It was thus possible to view differences in SD ratings of the two presentations as a function of different musical backgrounds. When this was done, music was found to effect changes in the meanings of film segments beyond chance expectations.

Gerrero has employed a formulation of Osgood's which enables the prediction of the meaning of two words in combination from a knowledge of the SD scale values of each of the words when rated singly.[2] The SD profile of an expression such as "lazy athlete", for example, can be predicted when the individual SD profiles of "lazy" and "athlete" have been previously determined. Such a predicted scale value is termed a "point of resolution" (POR). Applying Osgood's formula to the ratings obtained from the separate presentations of music and film, Gerrero finds that the POR procedure is valid for film and musical concepts as well as for verbal ones. Highly significant correlations were obtained between the ratings obtained from music-film combinations and the POR predictions of those combinations. Further analyses revealed that the accuracy of these POR predictions was related to both the structures of the components and congruency of the combination.

Also examined was the relationship between congruency and each component's contribution to the combined meaning. When the combination was congruent, i.e., when both members were rated as having roughly the same meanings, the meaning of the combination was more closely related to the meaning of the film component than to the musical component. In the case of incongruent combinations, however, the musical component appeared to have the greater similarity to the total meaning. Whether music was the causal agent in the meaning change, as Gerrero implied, could not be determined from the design of the study. This relationship between total meaning and that of the individual components was also found to vary as a function of the level of structure of the components. The explanation for this phenomenon remains unclear.

An important although supplemental phase of Gerrero's study involved separate factor analyses of the SD scale intercorrelations for the film, the music, and the combined film-with-music stimuli. Using essentially the same solutions as those employed by Osgood in the development of the SD technique, Gerrero found the factor loading patterns to be quite similar for the three types of concepts. The first factor was obviously the same Evaluative factor found by Osgood in the study of verbal concepts. The second factor resembled Osgood's third factor: Activity. Gerrero dismisses the remaining factors as being too ambiguous for interpretation.

DISCUSSION

The problems Gerrero set out to study have been thoroughly investigated. The rationale underlying the design and the data treatment is complex at times, but appears entirely adequate. The appropriate statistical tests support all conclusions. It should be mentioned, however, that this dissertation was completed in the field of mass communications and its findings have no direct application to problems in the teaching of music. As the author points out, the study might best be viewed as a beginning of a line of investigation which would place music as an element in a theory of instructional media.

Accordingly, Gerrero has identified variables in musical meaning which appear to cause predictable changes in the meaning of a film with a musical background. This should be of great interest to experimental aestheticians. Of still greater importance, however, is his demonstration of the methods by which empirical research in musical meaning may be carried out. These methods, particularly accessible to the investigator with a knowledge of factor analysis, deserve the fullest exploitation in aesthetic research.

FOOTNOTES

[1] Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, *The Measurement of Meaning* (Urbana: University of Illinois Press, 1957). A *semantic differential* is a set of rating scales, each scale consisting of two antithetical adjectives placed at opposite ends of a graduated line. The subject is given a concept which he rates on each scale by checking a position on the line between the two adjectives. The scores yielded by this procedure indicate the degree to which the subject relates the concept to several general factors of meaning.

[2] *Ibid.*, 206, 207.

Gray, John Justin. Subject Matter Testing Practices in State University Music Education Curricula. University of Southern California, D.M.A., 1960. Order No. 60-6203.
Reviewed by Daniel Kohut

INTRODUCTION

Gray introduces the problem by stating that, since there is no federal coordinating agency concerned with curriculum standards in higher education at this time, a wide diversity of requirements continues to exist. He states that the desirability of a strong general education for all music students is producing pressures which require a complete re-evaluation of the tremendous scope of knowledge needed by the professional musician (page 2). He sees a need for dynamic and searching self-evaluation of teacher training programs.

There is also the problem of maintaining proper balance between general education requirements and the demands of professional music training. "Various individuals, groups, and accrediting organizations have indicated general objectives for music education curricula but there has never been a specific indication of what knowledge music students should be required to know as minimum subject matter."

THE PROBLEM

1. To investigate the historical development of music education curricula in the United States.

2. To analyze the present-day courses of study in music teacher training programs in order to ascertain the relative importance of certain basic music subject matter.

3. To examine and report the testing practices presently being utilized in music education curricula.

4. To prepare and evaluate specimen examination questions designed to illustrate basic knowledge required in the training of music teachers in this country.

NEED FOR THE STUDY

In order for music to retain its rightful place in the educational institutions of this country, Gray believes it is important that music study be shown as a vital and meaningful subject requiring vast training and knowledge and that there is a need to promote greater agreement regarding certain basic music terminology.

DELIMITATIONS OF THE STUDY

The major state universities of this country were utilized as the sources for information. Sixty-three institutions from 50 states were contacted to supply catalogs for the curriculum study phase. With the help of libraries and some noncatalog material, information on all 63 was eventually obtained. Twenty-two of these were not accredited by NASM.

PROCEDURE

Five areas of required music subject matter were determined to be: (1) music history, (2) music theory, (3) conducting, (4) orchestration, and (5) music education.

He carefully surveys the history of the Music Educators National Conference, the Music Teachers National Association, and the National Association of Schools of Music in an attempt to show their role in music education curriculum development. This culminated in NASM being designated (1959) as the official accrediting agency for all higher education music programs.

Next he solicited final examinations in each of these five areas from the 62 institutions. Twenty-seven institutions agreed to cooperate. In order to achieve wider representation, Gray compiled representative questions based upon his initial request and mailed these to directors of the schools and chairmen of departments involved with study in the five areas. He received 260 examinations and received comments on these materials from 102 persons from 38 institutions, 26 deans or administrative heads, and 76 faculty members.

FINDINGS

Gray's analysis of the courses and credit requirements in the five music subject matter areas revealed large variations in the emphasis given to individual areas. Eight different degrees were found to be offered in music education. Five schools did not have specific requirements in the five areas but based curriculum on individual needs. All except one school required conducting. Seventeen schools did not require orchestration, although in most instances this was allowed as an elective. The majority of schools required at least one year of music education, divided into elementary and secondary school methods. Credit allotments for each of these course areas varied greatly, as did the duration of the period of study of each.

Regarding the study of testing practices, the results showed that the panel of authorities (deans, department heads, faculty members of the state universities) agreed upon a significant amount of knowledge which they considered as being important basic subject matter. They rated 92 questions in history, 65 in theory, 44 in a combined category of conducting and orchestration, and 59 in music education.

RECOMMENDATIONS

1. A common degree for all graduates of music teacher training programs should be sought intensively by music educators for reasons of professional respect. The great division of objecgives as indicated by the offering of eight different degrees in music education is in sharp contrast to the practice and standards in the professions of law and medicine.

2. The study of music history should concentrate on the literature of music as sound, as well as the many facets drawn from and about the written music and its cultural influences. A balance of emphasis with regard to the different musical periods is also needed. Emphasis on masterworks, which could be utilized in practice by the music educator, should not be neglected. Finally, the development of efficient evaluative techniques for measuring the students' aural and visual familiarity with significant musical works drawn from all musical periods presents a challenge requiring the greatest diligence from all faculty and musical organizations concerned. Gray recommends that a minimum of two years of music history be required.

3. "While a minimum of two years of theory is accepted fairly commonly by most institutions, this minimum requirement should be reinforced with more unified goals within the course content." Standardization of terminology used is greatly needed. Considering the vast amount of knowledge which should be learned in music theory, as judged by the panel of authorities, one very definitely might question whether or not the type of musicianship desired can be achieved in two years of study. This indicates that exceptional competence in teaching is a necessity if the task is to be accomplished. In addition, ear-training, sight-singing, dictation, keyboard harmony, and composition should not be minimized. If the study of counterpoint and analysis is not required in separate courses, a minimum of this material should be included in the basic courses. Finally, the preparation of superior questions for examining and evaluating the progress of individual students could promote higher standards of achievement through clarification of fundamental objectives.

4, "The well-trained conductor needs: (1) a background of knowledge in all areas of music including vocal and instrumental techniques; (2) a thorough knowledge of baton technique and score reading; and (3) repeated practical applications of this technique and knowledge before various musical organizations." The study of harmony, form, counterpoint, composition, and orchestration plus discriminate listening to great quantities of music from all periods, in all styles, should precede this practical application. All of this cannot be accomplished in a one-semester course. It is therefore recommended that a minimum of one year of practical conducting be required. Conducting and orchestration should be closely coordinated to prevent unnecessary duplication of classroom effort.

5. The need for a course in vocal and instrumental arranging or orchestration, with a minimum duration of one year, has been reinforced through the implications of this study. The most effective final evaluation technique in this area would be the production of specific scoring projects, written and prepared for performance by the students.

6. A minimum of one year, exclusive of practice teaching, should be spent in courses dealing with the knowledge necessary for efficient music teaching at any level in the public educational system.

7. The improvement of testing techniques and practices in music education courses should receive the most vigorous and diligent support, because this can reveal so effectively the basic objectives necessary to a superior educational program. Comparatively few college faculty members have had any specialized training in test construction. Even the better psychological treatises on tests and measurements pass lightly over this problem and devote time to other problems. College courses need to be developed in this area.

8. More efficient use of examinations to stimulate learning, as well as to evaluate it, is needed. Both the use of comprehensive examinations at various undergraduate levels and the preparation and use of examinations for study purposes are recommended.

REVIEWER'S COMMENTS

Although the author can be faulted for his research design, his selection techniques, and questionnaire construction, he has successfully provided considerable practical information relative to practices in the music subject matter course areas. Teachers of music theory, music history, conducting, orchestration, and music education should find the list "Specimen Examination Questions Which Received the Highest Evaluation" (Appendix H), to be of particular value insofar as it provides a general framework of specific knowledge which undergraduates in music education should possess. A perusal of the more comprehensive list of test questions in Appendix G, which includes those questions not given the highest rating, is interesting and revealing.

Although the study is not overly long for a doctoral thesis (353 pages), its length could have been constructively reduced through elimination of some excessive wordiness and repetition of materials. Specific examples are found under Limitations and Delimitations of the Study, items 1, 3 and 4.

A questions might also be raised with respect to the general format of the thesis. For example, would it not have been more logical to state the procedure in the first chapter rather than the concluding one?

Nevertheless, this study is a worthy, useful contribution to research in music education, and the author and his committee deserve to be commended for their efforts and results.

Haack, Paul Alfred. A Study of Two Approaches to the Development of Music Listening Skills Within the Context of the Music Appreciation Class for Secondary School Students. University of Wisconsin, Ph.D., 1966. Order No. 66-5907.
Reviewed by Harvey E. Maier

The broad problem of this study was to investigate the need for greater knowledge about methods pertinent to the development of musical listening skills and their underlying concepts for teaching music appreciation to secondary school students. The primary purpose of this dissertation was to evaluate the effectiveness of two experimental approaches to instruction for the development of: (1) basic concepts involved in the study of thematic development, i.e. fragmentation, pitch alteration, and rhythmic alteration and (2) skills necessary for perception of the musical relationships involved in thematic development. Answers were sought to the following sub-problems:

1. Can instructional procedures be devised to bring about significant development of highly abstract and relatively complex music listening concepts and skills at the secondary school level?

2. What type of approach, deductive or inductive, seems to be more effective?

3. How do the variables of sex, grade level, and amount of musical experience relate to the effectiveness of teaching procedures devised for the study?

4. What may be hypothesized, as a result of findings, about the musical listening and learning processes of secondary school students, and about musical materials appropriate to these processes?

The study was based on the fundamental assumption that neither the performance nor the appreciation aspects of today's secondary school music programs effectively provide the basic consumer concepts and skills which are considered essential for intelligent listening to and appreciation of serious music. A second assumption was the belief that certain teaching methods and techniques may be more appropriate than others, depending on the nature of the learner and the nature of the subject matter. A third assumption was that increased musical knowledge, understanding, and ability to perceive relationships can enhance music appreciation.

PROCEDURE

The author selected and defined the problem for study while teaching and developing the musical portion of an allied arts course. Exploratory work in this course led to the construction of a criterion test for evaluating the methods employed in the study.

The population for the experimental aspect of this study included seventy secondary school students who had just completed grades nine, ten, and eleven, and were in attendance at the opening two week session of the 1965 University of Wisconsin Summer Music Clinic. These seventy students were selected from approximately 200 bandsmen. Because of the clinic scheduling practices, random sampling was limited. Each experimental group (N = 35) was drawn from a separate pool of 100 students. One of the pools was found biased in favor of girls. Thus, 35 students were selected from the pool found to be reasonably representative of the secondary school wind instrumentalist population. The characteeistics of this group were analyzed and a second group was drawn from the biased pool in such a way as to approximate the first group on the antecedent variables of concern. (p. 10)

The music camp setting was selected because of the number of students and the amount of space and control allowed for experimentation. The allied arts class did not permit the possibility of effective experimentation due to lack of numbers, inadequate facilities, and major scheduling difficulties. The musically experienced population of the music clinic provided certain advantages such as a decrease in the experimental teaching time necessary to establish possible results as well as excellent control to enhance internal validity.

The study was designed so that the listening portion of these experimental classes was the only significant variable with contrasting deductive (A) and inductive (B) approaches to this listening activity. Both classes were taught by the author.

A quasi-experimental research design was used. t-tests of significance of mean gain were used to determine whether significant progress had been made and to compare the methods for possible differences.

In both classes, the same musical materials were employed. Both methods employed theme sheets containing the appropriately notated themes for more effective perception of techniques employed in the development of serious, extended compositions.

EXPERIMENTAL CLASS A

Instruction for method A was patterned closely after the traditional music appreciation class format. Haack says:

> The typical class period included a brief introductory lecture or discussion about the composer of the day, his works, and the particular composition selected for study. Closely directed listening according to the 'special' class notes led to analysis and discussion centered on thematic development... Approximately two-thirds of the total instructional time during each period was devoted to listening and analysis. (pp. 60-61)

EXPERIMENTAL CLASS B

Method B used the theme sheets in a different way by employing them as the basis for the initial position of each day's activity. Haack explains:

> Based on a synthetic or inductive approach, the listening portion of these classes began with a brief discussion about particular techniques or combination of techniques for thematic development which usually formed the nucleus for the days listening concentration. A sample theme selected from the theme sheet was then manipulated, or 'developed' by the class according to the techniques being considered [fragmentation, pitch alteration, or rhythmic alteration]. (p. 61)

The students were able to work independently, in small groups, and as a class. The remaining class time was devoted to certain factual information concluding with a final directed listening experience featuring a recorded work or excerpt based on the "theme of the day" and exemplifying the techniques of development emphasized in the lab activity.

TEST FOR PERCEPTION OF THEMATIC RELATIONS

This criterion test was designed to measure specific musical behaviors by presenting the student with actual musical situations in the form of problems. A musical theme was presented and followed immediately by a brief excerpt which was or was not related to the theme. The student's task was to listen and indicate his opinion and degree of certainty regarding the relationship between theme and excerpt on a five-point scale:

1. Definitely Related
2. Probably Related
3. No Opinion
4. Probably Unrelated
5. Definitely Unrelated

In addition, if the student believed the theme and excerpt to be related, he was to indicate the letter name of the type or types of melodic development involved in the excerpt:

A. Fragmentation
B. Pitch Alteration
C. Rhythmic Alteration

Part A of the test included the relationship between theme and excerpt and Part B of the test the degree of relationship.

Early pilot administration of the test was given to thirty-five high school students who provided answers about optimum length, desirable format, and practicability of administering the basic design as conceived. During this pilot study it was determined that 27 1/2 minutes was the maximum mean efficient work time for the test.

In several of the pilot studies, the manner of presenting themes and excerpts was varied. In several sections, the theme was presented only once followed by three to six related or unrelated excerpts. In other sections the theme was presented before each of the related or unrelated excerpts. This second manner of presentation was decided for the final version of the test. Only two seconds between the theme and excerpt was allowed in order to present a realistic situation regarding the passing sound problem in music listening.

The final form of the test involved a group of 40 students in a test-retest situation with a time interval of two weeks between the two tests. The reliability for Part A was $r = .76$, for Part B $r = .74$ and for the total test $r = .76$. The test was determined to be reliable for the purposes of this study.

CONCLUSIONS

The analysis of the pretest scores indicated that there was no significant difference in performance between the two experimental groups. The analysis of the posttest data indicated a marked improvement for both experimental groups in terms of gain in test scores showing an increase of more than 50 percent over the pretest scores. Both approaches brought about significant improvement in musical understanding and listening skills as measured by the test. Both the deductive and inductive method provide musical learning with neither one surpassing the other significantly.

There was no significant difference between the scores of boys and girls and no significant difference between experienced pianists and non-piano students. Experienced pianist was arbitrarily defined as more than one year of instruction.

Haack arbitrarily decided that students possessing four or less years of band instrument experience would be considered the less experienced group while students with four or more years of experience would be considered the experienced group. In terms of mean gain scores, the less experienced group was found to be superior in every comparison. A significant difference exists between the two groups in terms of test results. During the course of the study the understanding and awareness of melodic musical relationships was not positively affected as a result of extended band experience as such experience exists. (see Table I)

TABLE I

t Tests for Differences Between Gains for Students
with Four or More Years of Band Experience
and Students with Less Than
Four Years Experience

Group	Band Experience	N	Mean Gain	t
A	4+	24	23.9	1.16
A	4-	11	30.8	
B	4+	19	23.9	1.82
B	4-	16	34.4	
A+B	4+	43	23.9	2.24*
A+B	4-	27	33.0	

*0 < .05

The criterion test, "Test for the Perception of Thematic Relationships," was found to be discriminating and to possess adequate reliability and validity. The role of pupil variables (sex, age, and type of musical experience) made definitive conclusions difficult. Worthy of note is that lower grade levels surpassed the higher ones in each comparison involving gain scores as well as total posttest mean scores.

The level of concepts and skills involved in the study were suitable for the secondary school population and in fact more complex musical ideas might be explored with students of similar musical sophistication.

Haack says:

> Generally, the results of this project suggest that secondary school students are capable of mastering the types of concepts and skills involved in the study and are therefore being underestimated and undertaught when music educators assume otherwise. It is felt that many music programs and teachers fail in this respect due to lack of knowledge about methods for the development of consumer listening skills. (p. 93)

An implication to be considered is that the amount of time spent in actual listening may not be as basic a factor as how that time is prepared for and spent.

COMMENTS

This research is not really what the title suggests even though the project was carried out in an excellent manner. Certainly the improvement of teaching music appreciation classes at the secondary level depends upon upgrading methods and materials. The real point is whether or not we can improve the teaching of music appreciation classes in high school by upgrading methods and materials. Also, whether this raising of standards can be effective for the musically illiterate as well as the student with some training in music. Perhaps a third point might be raised whether or not this training really does improve appreciation. Haack did not answer this question; the allusion was that greater interest and discrimination were shown which might be tantamount to greater appreciation.

Mr. Haack definitely improved his teaching by concentrating on thematic recognition and manipulation which is one approach to this problem.

Leonard Bernstein and his use of teaching understanding and appreciation through form demonstrates another pedagogical method and technique. Jean Piaget in an article in the Saturday Review of May 20, 1967, entitled "Notes on Learning" states "Anything is only understood to the extent that it is re-invented." Haack's band students were able to increase their cognition by manipulating themes. As he recommends, more research is needed to determine whether this can be accomplished by nonperforming students as well. Most students, with teacher help and encouragement, astound one with their response and ingenuity in using creative ideas when given the opportunity to do so.

We must definitely improve our teaching techniques. The colleges and universities should lead the way by presenting to their students methods and procedures for the teaching of the enjoyment of music to all high school pupils through means other than the traditional lecture-type methods.

The thesis hints at a fact often mentioned in music education journals that we are not teaching music in our large ensemble classes (band, orchestra, chorus). These large groups are perfect vehicles for demonstrating not only thematic content, but color, line, harmony, form, et al. However, these classes are such a small part of the school population that we must reconsider what to teach to all the students. Here is where the basic emphasis needs to be placed. Let us learn to make our classes so interesting and challenging through the upgrading of methods and materials that a student's growth in depth and understanding can only lead to greater discrimination which is the apex of enjoyment.

The author should be congratulated on taking this initial step toward the improvement of teaching techniques in the music appreciation class. What with the mounting criticism from within and from without our professional ranks concerning methods and materials in the teaching of music, it is appropriate that research be done on how to effect this improvement. Just the act of recognition that this can be successfully done has enriched the literature in this area.

Let us hope that others will soon come along with different criteria and evaluative methods so that we can further enrich our teaching procedures. The benefit will be to those that need it most and probably do not know it--our average students.

Haenselman, Carl Ferdinand. Harmonic Rhythm in Selected Works of
the Latter Half of the Nineteenth Century. Indiana University,
Ph.D., 1966. Order No. 66-14,828.
Reviewed by Kenneth Wright

Harmonic rhythm, like Democracy or The American Way of Life, is a phrase more talked about than defined, and it is refreshing to see a practical study of this important element in music, one focused largely on music itself rather than on the psychological bases of rhythm (e.g., Cooper, Meyer, Kurth) or, on the other hand, on the subjective pronouncements of composers (e.g., Stravinsky, Creston, Hanson).

The Haenselman study is slim in size; 175 pages (reduced further by full score quotations) may not be enough lebensraum for the kind of penetration that this topic deserves. With such compression, surveys often substitute for depth and generalities for specifics--with all attendant frustrations for the dogged reader. However, this study does afford a workable perspective on the field of harmonic rhythm, even if interpreted within the confines of a relatively narrow chronological period.

The period itself is the late 19th century, and the instrumental works of nine composers (Tchaikowsky, Brahms, Bruckner, Liszt, Wagner, Franck, Rimsky-Korsakoff, Dvorak, and Borodin) serve as models. The choice of such a period dictates largely the composers represented and it is here that some question may arise over the focus of the study. With such a delimitation, the rhythmic manifestations of Schumann, to say nothing of Schubert, Chopin, and Beethoven are purposely excluded. The author states that "the exploitation of new harmonic, melodic, and rhythmic devices which occurred after the turn of the nineteenth century was continued and expanded by the late-Romantic composers" (p.7). The reader may be left with the uneasy inference that the later composers dealt with in the century are merely continuants of trends observed in Beethoven and Schumann, for example. Such would not be the case-- as witness the vast difference between the 1841 Schumann Fourth Symphony Scherzo and that of the Bruckner Seventh Symphony of the 1880's. But since the author did limit his investigations to the latter half of the nineteenth century, he is under no express obligation to set his conclusions in terms of the entire century, although this would have been welcomed.

The author avoids at the outset the usual semantic difficulties of rhythmic terms by defining very simply, even if arbitrarily in some instances, the congeries of terms associated with rhythm-- tempo, meter, metric rhythm, accent, and others. This done, he tackles the main term itself and evolves a clear and practical explanation of harmonic rhythm as a phenomenon. Chapters III and IV, in their brief

47 pages, could be recommended reading for any musician interested in learning more about harmonic rhythm-- more than he might from Piston but without entering the murky caves of experimental psychology. Answers are suggested to some questions commonly asked about harmonic rhythm-- the effect of passing chords, pedals, and suspensions; of the chord seventh presence after its triad form; of inversions following a chord in root form; and how the rhythmic position in the measure affects the rate flow, to mention a few. Debt is acknowledged to the excellent Norman Cazden article in the 1958 Journal of Music Theory. Readers who want to pursue this aspect of harmonic rhythm (harmonic motion) further will find excellent food for thought in the article itself. [1]

Chapters dealing with the relation of harmonic rhythm to melodic rhythm, to metric rhythm, to tempo, moods, timbre, and style factors, and especially to form, follow with varying success. They are successful if the reader studies the 54 musical examples of Chapters V through VIII, and perhaps less than successful if he becomes entangled in the often ponderous language. For example: "When different types of rhythmic accents occur at the same temporal moment, their combined effectiveness is greater in marking that temporal moment as an accented moment in the listener's perception" (p. 151) seems the kind of thesis jargon that may scarcely illuminate understanding. Only by study of the Brahms movement to which this relates (the first 8 measures of the slow movement from the First Symphony) can we really learn what the author had in mind, namely that, with the exception of measure 5, strong harmonic changes occur consistently on the strong beats of each of the measures quoted. Because harmonic accent and rhythmic accent are joined, the accent emphasis is that much greater-- a statement no one would quarrel with at the outset.

Chapter IX is concerned with the relationship of harmonic rhythm and form, and the author carefully states in his opening paragraph (p. 153) . . . "Considerable additional research must be performed at these primary and secondary levels before analysis can be performed and conclusions drawn concerning the function of harmonic rhythm at the higher architectonic levels." (The same statement is made in the chapter's summary on page 168). The musical substance of this chapter revolves about 73 measures of the opening movement of the Brahams Fourth Symphony, and a systematic, although routine, harmonic analysis is made. From this are drawn conclusions of nominal value ("analysis reveals phrases in which the rate of harmonic rhythm remains the same, and other phrases in which there is an increase or decrease in rate") and conclusions of some substance ("the 'B' section employs more gradual directional harmonies within the tonality while the 'A' section employs functional motion. . . in the use of embellishing harmonies and successive chords of the seventh").

The entire question of the relation of harmonic rhythm and form is of such concern to the practical musician that the reader may feel short-weighted by the small portion of this study devoted to this aspect. However, the author again reminds us (p. 175) that "the role of harmonic rhythm in the perception of musical form is beyond the scope of the present investigation," and Chapter IX should properly be construed as an illustrative approach to the harmonic rhythm-form problem and not a thorough probing of its many fascinating aspects.

Any reader harassed for time scans a thesis in somewhat involuted order--first the table of contents and next the inevitable final chapter with its orderly cataloging of what has taken place in between. Anyone who reads first Chapter X (Conclusions and Recommendations) of the present study will be rewarded by excellent redefinitions and logical summaries of the study's landscape, marred only by one or two skull-racking obscurantisms (e.g., "prolegomenous," (p. 170). Of particular value are the very practical summaries of the various aspects of harmonic rhythm, of motion and rate elements, and the interrelationship of harmonic and metric rhythm.

The virtue of the Haenselmann study overall is that it lays out workable tools and common-sense maps for the interested explorer. Travel beyond that point may be somewhat at your own risk, but this is generally true of the entire field of harmonic rhythm in its musical manifestations. For this reason, we can all anticipate with pleasure more detailed studies, especially those done from the practical musician's standpoint. Certain aspects of the present thesis may well point such a way.

FOOTNOTE

[1] Norman Cazden, "The Principle of Direction in the Motion of Similar Tonal Harmonies," Journal of Music Theory. November 1958.

Haynes, Margaret. General Education in Music: An Exploration of a Construct. Indiana University, Mus.Ed.D., 1968. Order No. 68-10,133.
Reviewed by Donald Metz

THE STUDY

This exploration investigated and evaluated the construct "general education in music" and its corollary "music in general education." After a brief history of the usage of these terms, Haynes traced recent developments in educational theory and studied the problem of meaning and significance in music. A discussion of general educational thought was included, with particular emphasis given Philip Phenix's Realms of Meaning. In Chapter V, the author presented a classification and analysis of means and ends in music education. She examined the psychology of child development with special attention to Maier's Three Theories of Child Development (which deals with Erikson, Piaget, and Sears). Haynes then discussed the problems in defining the term "structure" in a discipline, and summarized her findings.

COMMENTS

First of all, no one can cavil at Haynes' resources. A glance at her bibliography cannot help but impress: Bloom's Taxonomies, Broudy, Bruner, Dewey, Grout, Langer, Leonhard, Madison, Leonard Meyer, Mursell, Phenix, Reimer...and so on. Basic sources, all. Secondly, as one ponders the notion, some confusion has existed regarding the unfortunate visual similarity between the phrases "general education in music" and "music in general education." Haynes shows clearly that these phrases must not be considered synonymous. However, it seems a fairly facile observation: the former referring to the broad-based introduction to music and to the study of music itself, the latter to the manner in which music (or the arts) is subsumed under the wider, more inclusive humanities idea.

In addition, a positive contribution is made toward the semantic precision of our journalism by her discussion and analysis of the now-famous phrase "structure of the discipline." She concludes that "the term structure is not, as so often seems to be the case, restricted to a set, inflexible body of knowledge" (p. 223). This is later expanded: "...it becomes possible to think of structures in music of product and process,... Structures of the musical product, the formal classification of musical materials are static entities, as Meyer judges them...structures of process, however, are dynamically conceived, and are described variously by different authorities." Her authorities are Bruner, Meyer, Langer, Hans Tischler, and Phenix. Haynes seems to feel structure does not simply equate with the musical elements, as it is generally acknowledged to do. (The usual argument suggests that to teach the structure of the musical discipline, we focus on the elements, alone and in combination, and amalgamate their use under stylistic analysis.) "Structure is a generic term applicable to subject matter, to styles and developmental levels of learners, and to all systems of knowledge..." (p. 223). Even though some confusion still remains about Haynes' own definition of the term as regards music education, it is to her credit that she has challenged a term too casually accepted by the profession and too frequently bandied about without specificity. Lastly, aside from her penchant for split infinitives, the writing style is relaxed and relatively easy to read.

Perhaps the most encompassing complaint one could register would have to do with the scope of this thesis. There are chapters, for example, on musical meaning, and developmental psychology, that alone could have provided sufficient material for a thesis. Problems of aesthetics are treated far too lightly to be of any potency. The extensive "translation" of great portions of Meier's book, which begins to read like a book report, comes as a curious follow-up to a much earlier statement that "...the child's conceptions of music at various maturational levels are not fully known, thus leaving in some doubt the exact manner of teaching musical structure applicable to these developmental phases" (p. 60).

One idea if presented which speaks of the need for an all-inclusive philosophy of music education, one similar to "Meyer's threefold bases for musical signification, which includes not only the formalistic but the kinetic-syntactic and the referential as well" (p. 59). Haynes' presentation of this position demands more support than she gives it. She feels that "concentration on the aesthetic qualities of music should be somewhere in the middle of the common school experience..." (p. 87). One is not certain here (1) where the middle is and (2) how one avoids the aesthetic considerations at the two ends. Further, it is difficult to understand how a teacher can provide "a number of peak experiences throughout the student's school years" (p. 87) if he doesn't attend to the aesthetic continually. Interesting, too, is the use of the term "peak experience" without any reference anywhere to Maslow.

Haynes' theory of musical meaning assumes that musical response--a particular response--is somehow objective and teachable. A quote illustrates her line of thought:

> The idea that the feelingful response to music is subjective and not teachable is likewise, not accepted. If music itself is the objectification of the composer's knowledge of human feeling it may not be too unreasonable to think of responses to that music by listeners as the objectification of their feelings to the music. If such response may be said to exist there should be a way to teach for that response if education has any reason for its existence at all (pp. 278-279).

Space does not permit the lengthy sort of discussion this idea warrants. It is difficult to comprehend how honest affective responses can be predetermined. It seems that Haynes chooses to teach something fixed and relatively constant. The reader is never certain how listener's responses are "objectified," and this reviewer finds much of this aesthetic rambling confusing and vague. What she seeks is a philosophy that encompasses cognitive, affective and psychomotor responses, finding formalism and expressionism too exclusive. Unfortunately, her defense for such a belief is sketchy at best. As elsewhere, this matter is dropped and the reader wonders where these perplexing peregrinations will lead.

Haynes is quite obviously an anti-Reimerite and notes his significant omission (in one of his articles) of recommending any feasible approach to developing the aesthetic response to music he feels so central to music education. "It would almost seem as though the problem did not exist, and that the aesthetic response is really a subjective response, since the author (Reimer) seems to leave it to each listener to develop his own aesthetic feelings..." (p. 228). Reimer's position is known well enough to require no explanation or defense here. The problem is that Haynes herself offers no suggestions regarding how she would develop these responses in her classroom. The criticism here is not so much of her personal phil sophy, but of the lack of justification for her point of view.

Ultimately the author recaps her exploration by referring the reader to previous page numbers. The summary of this entire trek can be seen best in the author's own conclusion [regarding "general education in music"]: "It is not recommended that it be a concept rigidly held to, particularly at the classroom level... The most appropriate place for this construct, as well as for its complementary construct, general educttion in music [sic], is in advanced curriculum theory. The only difficulty here is that curriculum theory...is...not very well developed" (p. 284).

One would never have guessed that such a sad fate awaited the construct. The repetition of the term (hopefully a transposition error) instead of using its reverse statement, music in general education, perhaps indicates that even the author has fallen prey to the very semantic confusion she hoped to clarify.

The reviewer wishes to reiterate the most positive aspect of this study--the author's concern for the term "structure." Music educators should re-examine this term and realize that, indeed, it can have multiple definitions and applications. However, weaknesses abound in this thesis. Too much was added without necessity, and these additions are frequently disappointing, both in profundity and in applicability to the study. Haynes' "sudden realization" of the importance of education up through age five, for example, seems dreadfully naive. Perhaps future researchers who encounter these non-reversible constructs will follow Haynes' advice and not hold to them too rigidly, for, after all, they belong to the realm of advanced curriculum theory. But then, that's a problem area, too.

Hiigel, Lewis Edward. The Relationship of Syllables to Pitch and Tonguing in Brass Instrument Playing. University of California at Los Angeles, Ed.D., 1967. Order No. 68-3263. Reviewed by Robert F. Noble

A major teaching problem for brass instrument performance is the development of tonguing and pitch control in all registers. It is difficult to diagnose problems connected with tongue placement because it is normally impossible to observe what the tongue is doing within the oral cavity. While there is an apparent conflict on which vowels or consonants should be used in the different registers for legato and staccato playing, there seems to be general agreement among brass teachers that "syllabic imagery" should be used as a teaching tool.

Statement of the Problem

Dr. Hiigel stated as his problem: "to determine what relationship, if any, exists between the action of the tongue when producing selected vocal syllables and the action of the tongue when performing specific pitches and styles on a brass instrument." He developed 12 null hypotheses relating to initiating and withdrawing the tongue in playing brass instruments in different registers and in different styles and in comparison with vocal syllable production.

Procedure

A questionnaire was given to 146 college music educators and brass teachers (members of C.B.D.N.A.) who attended a conference at Tempe, Arizona. Eighty-two copies of a questionnaire were returned. The questionnaire was concerned with identifying specific syllables used in the teaching of tonguing. Eighty-seven percent of the respondents indicated they used syllables in teaching articulations and that, in the four registers (low, medium-low, medium-high, and high), the most commonly used staccato syllables were "taw," "tah," "too," and "tee." Most frequently used legato syllables were "daw," "dah," "doo," and "dee" in the same four registers.

Six subjects who had primarily large band experience were chosen on the basis of their professional status as musicians, their interest in methodology, and their availability for cinefluorographic filming of specific pitches, rhythms, and styles as they performed and as they recited syllables. Three of the six subjects did not use syllables in their own playing or teaching. Two players each were used on trumpet, French horn, and trombone.

A musical score was prepared consisting of pitches which covered the natural tessitura of each of the three instruments. Each subject was x-rayed with 35 mm. film 1,998 times in the 82 seconds required to play the score. The film was later reduced to 16 mm. Cephalometric tracings of selected frames from the 35 mm. film were made so that tongue movements could be determined, measured, and quantified. These were traced on a standard cinefluorographic grid with a Keuffel and Esser measurement template. Statistical differences were obtained on these drawings. The conditions for performance were specified as: (1) the subject played the written score without instructions, (2) the subject spoke the syllables indicated on the script, and (3) the subject played the score and was instructed to think the related syllables as he performed the music.

An IBM subject data sheet was designed to organize the data for transfer to computer cards for statistical analysis. Null hypotheses were then tested through the computer in four replications through t tests and analysis of variance to test (1) subject effect, (2) experiment effect, (3) register effect, and (4) attack effect.

Conclusions

Hiigel arrived at ten major conclusions. The following seemed to be most significant:

1. Significant differences exist between the tongue placement for legato and staccato with the exception of the contact placement of the posterior arch. The position was higher for legato than staccato. Differences do exist for tongue placement both for pitch and for syllables but the differences are higher for syllables than in performance.

2. Significant differences exist between the tongue placement for performance of the various pitches and styles and placement for the enunciation of the syllables. The position was higher for syllables than for performance. The withdrawn tip placement was higher for legato than for staccato and farther forward for the staccato than for the legato. The withdrawn posterior arch is farther forward for staccato than for legato.

3. No evidence was found to support the postulate that thinking a syllable during performance will tend to simulate the tongue position resulting from the enunciation of that syllable. There seemed to be no pattern of register change.

4. The directional tendencies of tongue placement for both performance and syllabic recitation are similar, with the exception of the contact placement of the posterior arch.

Reviewer's Analysis

While the topic itself may not seem a vital one to teachers of other instruments, it is an extremely important and frustrating one to teachers of brass players. Through the years we have depended mainly on the quality of the tone, the sound of the articulation, and verbal descriptions by the player regarding his tonguing activity in order to determine whether or not the tongue position was satisfactory. Some researchers, notable at West Texas State College and at Colorado State College, have investigated similar photographic devices to obtain visual pictures of the ideal tongue placement and action.

The term pitch in the title of the dissertation is somewhat confusing. One normally thinks of pitch as referring to tonality or to intonation; however, it is used here in reference to register within the instrument. This reviewer could find no attempt to establish a specific pitch control-tongue relationship.

While the choice of six professional performers with ideal tongue actions seems sound, the small sample and the possible lack of representativeness inhibits generalizability of results. It is entirely possible that other performing professionals might not have tonguing patterns similar to these six.

In concluding that there was no evidence that thinking a syllable will tend to simulate the tongue position resulting from the enunciation of that syllable (No. 3 above), Dr. Hiigel's reasoning was not clear. His subjects were asked to think the syllable before performing and were not asked to do it in an alternative way. Although the cephalometric tracings showed differences in tongue positions between the oral syllables and the played syllables, half of the subjects did not normally play with mental syllables and might have performed slightly differently if they had played in their normal manner.

In spite of such challengeable items, Dr. Hiigel has come up with a very valuable dissertation. Certainly his measurement tools were highly sophisticated and of the type not available to every researcher. His procedure was carefully controlled and the statistical evidence appears sound. All in all, this was an excellent piece of research.

Hullfish, William Rouse, Jr. A Comparison of Response-Sensitive and Response-Insensitive Decision Rules in Presenting Learning Materials in Music Theory by Computer-Assisted Instruction.
State University of New York at Buffalo, Ed.D., 1969. Order No. 70-1101.
Reviewed by Rudolf E. Radocy

PURPOSE OF THE STUDY

Hullfish compared two methods of programming music theory materials for presentation through the medium of computer-assisted instruction. The methods differed in the structures of their decision rules, the strategies used to determine the order of presentation to individual students.

One programming method was characterized by response-sensitive decision rules. The computer's presentation of instructional material was determined by the response history of the student. The student's response pattern to a computerized pretest and his response patterns to blocks of instructional material determined the pattern of computer branching.

The second method was characterized by response-insensitive decision rules. Presentation of instructional material was determined only by responses to certain key questions; single responses rather than student response history or test results determined the branching pattern.

The program characterized by responsive-sensitive decision rules utilized patterns of earlier responses for branching decisions; the program characterized by response-insensitive decision rules utilized the student's response to one instructional item to determine the next instructional item. Hullfish compared the two programming methods to test his three hypotheses:

Hypothesis 1. The achievement of students in the response-sensitive program will be significantly greater than those in the response-insensitive.

Hypothesis 2. The positive attitude toward CAI in the response-sensitive program will be significantly greater than in the response-insensitive.

Hypothesis 3. The instructional paths of the students within the response-sensitive program will vary considerably from the paths of the students in the response-insensitive.

PROCEDURE

Eighty undergraduate students enrolled in three intact sections of an introductory survey of music course at the State University of New York College at Brockport during the spring of 1969 constituted the sample for Hullfish's study. The students were randomly assigned to the response--sensitive or response-insensitive groups. Twelve students did not participate in the computer-assisted instruction, which served as enrichment rather than replacement of regular classes; the remaining sixty-eight students were used in the measurement of attitude. Of the sixty-eight who received computer-assisted instruction, fifty-five students completed a CAI program. Fifty-two students, twenty-six from each group, were used in the achievement measure.

Three measuring instruments were utilized to collect data for analysis. The "Placement Examination in Music Fundamentals," a 100-item multiple-choice test which had been in use at Brockport for two years, was administered as a pretest during the first two class periods to obtain a measure of prior musical knowledge for use as a covariate. Achievement was measured during the fourth week of classes by the "Subject Matter Examination in Music Fundamentals," a twenty-two item instrument Hullfish designed in relation to his specified objectives for the computer-assisted instruction. Attitude was measured by a forty-item Likert scale instrument, the "Pennsylvania State University CAI Attitude Inventory," during the fourth week. These three instruments were not computerized; the pretest which served to gather information for making branching decisions in the response-sensitive program was an integral part of the program.

The instructional material was programmed in accordance with the two strategies for presentation through IBM 1050 Teletype terminals. COURSEWRITER I was the programming language used. Students worked individually at the terminals.

Appropriate null forms of the first and second hypotheses were stated; analysis of covariance was applied to the achievement data with the pretest data as the covariate. Analysis of variance was applied to the attitude data. The heterogeneity of instructional paths, subject of the third hypothesis, was examined by the inspection of individual flow charts constructed by Hullfish from computer print-outs of student performance records.

FINDINGS AND CONCLUSIONS

Hullfish found significant ($p < .05$) differences in achievement, as measured by his "Subject Matter Examination in Music Fundamentals," in favor of the students who had worked with the response-sensitive program. *Post hoc* analysis of responses indicated that the largest differences between the groups were observed for those nine test items at the comprehension level of the Bloom taxonomy of educational objectives. Differences at the knowledge, application, and analysis levels, while favoring the response-sensitive group, were not as great.

No significant differences in attitude, as measured by the "Pennsylvania State University CAI Attitude Inventory," were found. Hullfish stated that greater attitudinal differences might have been observed had the study been conducted over a longer period of time.

Inspection of individual flow charts revealed more heterogeneity of instructional paths in the response-sensitive group.

The overall time students spent on the two programs was approximately equal, but Hullfish cautions that there was no analysis of how time was spent within the programs.

REVIEWER'S COMMENTS

Hullfish's dissertation compares the effectiveness of two programming strategies in the presentation of learning materials in music theory. The differences between the response-sensitive and response-insensitive strategies are clarified, but the content of the theory instruction must be inferred indirectly from charts illustrating the programming strategies, the appendix containing the posttest items, and the appendices containing samples of programs and student records. Examination of the twenty-two item posttest leads the reviewer to conclude that the instructional content is limited to structural characteristics of modal scales. Further evidence supporting modal scales as the course content comes from examination of the samples of programming and student records. However, examination of the charts illustrating the programming strategies suggests that drill in intervals is part of the course. The reader is told that the posttest was designed to measure "achievement of the objectives specified for the instruction presented on the computer"; actual specification of those objectives in the dissertation document would greatly clarify the nature of the computerized instruction.

Superfluous, ambiguous, and inaccurate information presented in the dissertation does not serve the purpose of clarifying what was done and why. The extensive problem section in Chapter I is an introduction to computer usage in education which, in the opinion of the reviewer, is not essential to the development of Hullfish's topic. Terms which may not be clear to the reader are not always defined at the point of initial usage, for example, "COURSEWRITER" on page 13 and "taxonomy" on page 63. Numerical inconsistency fosters ambiguity; on page 27 the reader is told that four of fifteen music fundamentals classes were selected for subjects, while on page 45 the selection becomes three of ten classes. On pages 44 and 45 it is stated that eighteen of eighty students did not "do the programs"; the "remaining sixty-eight" were utilized. 80 - 18 = 68? The reader is referred on page 68 to Appendix D for a sample of an individual flow chart used to trace a learning sequence in the investigation of heterogeneity of learning sequences, but when one turns to Appendix D, a printout of a student's dialogue with the computer from which a flow chart may be constructed is found.

Hullfish's study has several basic strengths. A valid comparison of two methods of presenting identical musical materials to similar students through the same medium has been made, and empirical evidence has been gathered to show that significantly greater achievement results from the programming strategy which takes greater account of the student's prior knowledge and response patterns. The programming strategies are carefully explained and illustrated; the review of the literature is well-organized, relevant, and supportive of Hullfish's study, and the statistical treatments are straightforward and appropriate.

In summary, the Hullfish study appears to provide music educators with further information regarding the development and refinement of a powerful new instructional medium. The information would be more useful to future research if certain superfluities, ambiguities, and inaccuracies were removed from the documentation of the study.

Jeter, John David. An Analysis of Expressed and Observed Difficulties of Beginning Vocal Music Teachers. Indiana University, 1966. Order number 66-14,274.
Reviewed by Robert E. Nye.

This study has to do with improving teacher education, and, according to the researcher, no earlier study of this particular subproblem exists. Many of the references pertaining to the general subject of difficulties of beginning teachers were found to be relatively old ones, which reflects the lack of recent research in this area. The researcher states, "It would seem apparent that, in order to provide well-trained teachers, . . . teacher training institutions should analyze the difficulties of teachers currently in service, as reported by those teachers themselves, and should utilize the results of such analyses to improve those courses prescribed for prospective teachers." Thus, the purpose of the study was to determine and analyze the teaching difficulties of a group of beginning vocal teachers. Only those full-time teachers who had taught mainly vocal music either at the elementary or secondary level in the public schools for less than four years were included in the study.

The primary research technique was the personal interview. The procedure suggested by Waples and Tyler in their 1930 publication, Research Methods and Teacher Problems, was utilized. This procedure had proved its effectiveness in some earlier related studies. The researcher found the focused personal interview as the type most likely to secure the desired data. Questions were designed for three populations: 53 music teachers, 40 principals, and 35 supervisors. A great deal of background data was assembled concerning the training of the teachers and their job responsibilities. These data were reported in Chapter Four.

The researcher classified the difficulties reported by the music teachers under twelve major headings, with seventy-three subheadings needed for clarification. When the findings were analyzed, these categories were listed in order of frequency of difficulty as follows: techniques of instruction, discipline, working with the vocal technique of individual pupils, utilization of equipment and physical facilities, personal problems, training of vocal groups, extracurricular activities, administrative policies, determination of pupil achievement, other school personnel, community relationships, and improvement of teaching. The principals observed the difficulties of beginning vocal music teachers somewhat differently. They reported difficulties in order of frequency as follows: discipline, personal problems, techniques of instruction, other school personnel, extracurricular activities, administrative policies, determination of pupil achievement, community relationships, improvement of teaching, and utilization of equipment and physical facilities. The supervisor's data were grouped in the same way, beginning with the category having the largest number of reported difficulties: personal problems, discipline, techniques of instruction, utilization of equipment and physical facilities, administrative policies, other school personnel, determination of pupil achievement, working with the vocal technique of individual pupils, improvement of teaching, extra-curricular activities, training of vocal groups, and community relationships.

The researcher next compared the differences between the three populations in an exhaustive manner. He summarizes, "Eight specific types of difficulties were not reported at all by the principals, yet the teachers reported 8.71 percent, and the supervisors 9.72 percent of the total number of difficulties occuring in these same areas. These specific types were (1) formulating and achieving objectives for music study, (2) evaluating music achievement at various grade levels, (3) lack of adequate teaching room, (4) lack of adequate facilities for musical performance, (5) determining and carrying out administrative policies, (6) participation in community activities, (7) lack of time for planning during the school day, and (8) utilizing the suggestions of supervisors . . . It is interesting to note that none of the principals reported . . . space limitations as being sources of difficulties for music teachers." As he continues his comparisons, he finds wide differences of opinion among teachers, supervisors, and principals. The teachers reported 79.3 percent more difficulties than were reported by their principals and 75.5 percent more difficulties than were reported by their supervisors, which suggests to the researcher that teachers are conscious of more difficulties encountered in teaching than principals and supervisors recognize from their observations. While teachers reported the highest number of difficulties in techniques of instruction, the principals reported discipline as first in importance, and the supervisors believed personal problems ranked first. Teachers and supervisors ecognized the importance of difficulties stemming from equipment and physical facilities while principals were much less aware of this. In view of the numerous expressed difficulties with regard to techniques of instruction and discipline, it is surprising that few teachers made recommendations that methods courses offer more training in these two areas.

Chapter Seven is concerned with comparisons of selected factors in the backgrounds of beginning vocal music teachers and their expressed difficulties. This involved types of degrees, methods courses, student teaching, and years of professional teaching.

Coefficients of correlation were calculated, but no significant relationships were discovered. One might suspect that this chapter was an exercise in statistics more to prove the candidate's ability to use these procedures than to find significant relationships.

Chapter Seven contains a useful and complete summary of findings, conclusions, and implications. Among the more interesting statements found in this section are:

"The more hours in elementary and secondary methods, student teaching, and actual teaching, the fewer number of difficulties were encountered by these teachers.

"The two areas, however, which exhibit more consistent significance for teachers are equated hours in student teaching and equated hours in actual teaching. This in itself underscores the importance of student teaching experience in the training of vocal music teachers. Such a conclusion should not necessarily minimize the role of methods study in the preparation of teachers; it should, however, emphasize the value and necessity of putting to practical use, through the student teaching experience, the techniques of teaching as taught in frequently less-than-practical methods courses.

"Many of the recognized teaching difficulties of beginning vocal music teachers revealed by this study can be anticipated and, to some extent, minimized by the teacher education institution; for example, placing strong emphasis on the techniques of instruction suited to various grade levels and music subjects; providing specific suggestions for handling discipline problems as they occur in music teaching situations; presenting opportunities for working with children's voices at various stages of vocal and physical development; stressing the importance of utilizing existing physical facilities and equipment to achieve optimum teaching effectiveness and efficiency, while, at the same time, endeavoring to improve poor physical conditions; and providing numerous opportunities to become acquainted with children at all levels of physical and musical growth so that instructional techniques and curriculum planning can be more accurately based on the capabilities of the pupils to be taught.

"Since the number of difficulties expressed by the beginning vocal music teachers was so much greater than those observed by their principals and supervisors, it would seem that many of these teachers were receiving inadequate observation and assistance from their immediate superiors.

"The investigation of teaching difficulties is an involved task since the difficulties themselves result from complex combinations of personal, intellectual, psychological, and social influences. This should not deter further research into this important area but should provide continuing challenges not only for teacher-training institutions but also for teachers in service."

This well written study will be helpful to researchers who must employ the personal interview technique. The data are utilized in a very complete way, as illustrated by the numerous tables and comparisons. The study will also be useful to college teachers who are grappling with the continuing challenge to improve teacher education.

Jost, Walter James. The Hymn Tune Tradition of the General Conference Mennonite Church. University of Southern California, 1966. Order number
Reviewed by Harry L. Eskew

This dissertation is a sequel to Paul Wohlgemuth's dissertation done ten years earlier also at the University of Southern California entitled "Mennonite Hymnals Published in the English Language." Most of the English language hymnals treated by Jost have been previously studied by Wohlgemuth in his dissertation. Jost's original contribution deals largely with Mennonite hymnals in the German language used by the General Conference Mennonite Church. Jost has made a study of each German language hymnal used by the General Conference branch of Mennonites and has shown the relationships of these hymnals to each other, as well as to their European predecessors.

It is important that one understand what is treated in "The Hymn Tune Tradition of the General Conference Mennonite Church." This dissertation aims

> ...to show the forces that shaped the various hymnbooks as they were compiled and what the significance of these collections was for hymn tune usage in the General Conference Mennonite Church. (p. 2)

The primary concern of this study is thus with hymnbooks and their influence upon what hymn tunes were used by this denomination. Therefore this study contains no musical analysis of hymn tunes, their form and styles. Instead the author focuses attention upon the number of hymn tunes in each hymnal from each century in order to give a general idea of the hymn tune traditions used. One especially informative feature is Yost's list of seventeen hymn tunes (pp. 234-235) which have appeared in each major hymnal in German used by General Conference Mennonites.

One difficulty that is faced by the music historian is the tendency to judge music of one time and place by other canons of excellence. For example, in describing a Sunday School hymnal used by General Conference Mennonites at the close of the nineteenth century Jost writes:

> Liederperlen was also of inferior musical and textual value, representing, for the most part, a type of song used in evangelism at the turn of the century. (p. 188)

Since this is a different type of song which is produced for a different purpose, should it not be judged in the light of that purpose rather than by standards of other types of song produced from different cultural, musical and theological perspectives?

Jost's study does serve to bring together a mass of useful historical information on the hymnals used by groups of Mennonites from several European countries and from various sections of the United States and Canada. Much of this study is based on German language sources which are treated here in English for the first time. In spite of its weaknesses, this dissertation will serve as a valuable and useful source for those seeking information on the hymnals used by the General Conference Mennonite Church. The information in this study will be especially useful for the hymnal committees of General Conference Mennonites, for an understanding of their past traditions of hymnody is essential to effectiveness of the work of compiling new hymnals, a task which this denomination has undertaken in recent years.

Kushner, David. Ernest Bloch and His Symphonic Works. The University of Michigan, 1967. Order number 67-15,649.
Reviewed by Kenneth Wright

Every musical age has its composers who, like biological reversions, stay at a safe distance from the rest of the herd and pursue their solitary existence seemingly undisturbed by their isolation or their distance from the current stylistic pastures. Such a composer would certainly be Bloch, and his enigmatic position in the 20th century music scene was apparent long before his death in 1959. Henry Cowell once characterized him as "a Romantic, so romantic he has said that he was born in the wrong century." Some years ago, a London reviewer wittily called Bloch "an operatic composer who did not write operas"!

Dart throwing is an easy game for critics in this age of violently shifting styles, and Bloch the composer is an easy target. Attacking Bloch the individual, however, has fortunately never been indulged in, and it is interesting to recall the many personal journalistic tributes to the composer as a teacher and as a personality by some of those same critics who found much to object to in his music.

But perhaps this was to be expected. In the Twenties and Thirties when the Bloch star was most radiant, he seemed to be a model for so many young composers and musicians -- cultured, articulate, fierce in his assertion of artistic "independence," a composer who seriously concerned himself with pedagogy and curriculum in music study. Certain other aspects of his career made his name take on almost the luster of an American folk hero to musicians. His battles with the Cleveland Establishment, his financial successes (e.g., the 1929 America award of $25,000, the Stern and other foundation grants which came his way), and the proud Jewish mantle which he wore both in his music and in his personal life are cases in point. And how poetic and appealing to our American psyches that this craggy personality should, after a lifetime of wandering, find peace and solace on the lonely Oregon beach where he spent his last years!

Uncovering the background of Bloch the composer is no easy chore. The only full-length study is the 1935 work by Maria Tebaldi-Chiesa, not readily available in this country. The scores of newspaper articles (Bloch always made excellent copy) are for the most part of the who, how, when, where variety with the inevitable subhead of "Composer disavows Jewish nationalism in his music." Among the many articles, those of Dika Newlin[1] and Roger Sessions[2] are serious and informative. A 1963 dissertation by

William Jones[3] tackles the problem of the Bloch style head on with some success.

The Kushner study is described as "a complete thematic and descriptive analysis of all the extant symphonic works of Ernest Bloch." Of generous length (some 350 pages), its tone is serious and its intentions good. Included in the study are a 21-page biography (with some interesting sidelights by the composer's daughter, Suzanne Bloch); a rather exhaustive listing of all Bloch symphonic works from the 1901 Symphony down to the Two Last Poems of 1958; the expected chapters of commentary and conclusion; appendices cataloging every work of Bloch; a discography; and a helpful bibliography (especially useful for newspaper and magazine references).

The problems of such a study are almost inherent in the nature of the approach. Some 32 symphonic works are surveyed in detail and are presented with copious thematics. With this type of procedure, the analysis unfortunately has to be of the road-map variety which has given symphony program notes such a dismal hue--"a fortissississimo climax leads directly into the Recapitulation where the Exposition's principal theme . . . the opening material enters in the full orchestra in two-four time and in a new rhythmic guise." At the same time, the nagging problem of proportion casts a long shadow on the scene. We wonder why the Violin Concerto should enjoy such opulence of attention and space (some 22 pages) or why the rarely performed Suite Symphonique (20 pages) should bask in such detailed attention.

The inclusion of works which, while technically "symphonic," still seem more of the chamber music genre (the Suite Modale for flute and strings, the first Concerto Grosso for strings and piano, and the 1958 trumpet Proclamation) may dilute the avowed purpose of this thesis. If on the other hand, the real and ultimate purpose of the study is to explain Bloch's style through his symphonic works, one wonders if the same purpose could not have been better served by depth analysis of certain key works of the various "periods," a type of analysis which would allow for selective consideration of important harmonic, textural, orchestral, contrapuntal, and formal elements.

Parts III and IV, Commentary and Conclusions, contain the real meat of the study, and it is here that the author attempts to explain Bloch's style through discussion of the works listed in Part II. Unfortunately, the conscientious reader must pursue a back and forth page-turning process, since Part II contains thematic musical examples but little explanation, while Part III explains without the benefit of any musical examples.

The most immediate reaction is an uneasy feeling that the entire story has not been told. A composer's style, even his symphonic style, has to be explained by more than thematic enumeration, movement by movement. The most obvious need is for further explanations of all the interesting Bloch harmonic trademarks -- chords with tritones, the various tertain constructs with added tones, the pedals and ostinati with which his works abound, and, above all, the parallelisms. Contrapuntal explanations would also be welcome, for Bloch was such as excellent contrapuntal composer. From the fine fugue in the early Concerto Grosso down through the 1952 In Memoriam with its interesting devices, linear thinking frequently motivates the composition. And how about Bloch's orchestration, his keen ear and taste for color? Paul Rosenfeld thought it stemmed from Debussy; the author suggests Strauss. Whoever the predecessors, is not orchestration a major feature of Bloch's symphonic works?

On the other hand, the author logically reemphasizes certain traits every musician may take too much for granted in the Bloch style. Among these are the trumpet call motives, dotted rhythms and short-long patterns, neo-romantic melodic lines, the cyclic use of materials, and the persistent diminished fifth melodic sweeps. The division of Bloch's output into five periods ("The Jewish Period," "The Academic Period," for example) may make the musicologist frown, but it does serve a useful purpose for the layman whose acquaintance with Bloch is mainly through Schelomo or the popular Baal Shem suite. Bloch's gradual shift from the programmatic and the emotional to the abstract and relatively impersonal idiom of the last few years is thus apparent, itself an interesting topic for study.

Close scrutiny uncovers only a few questionable details. On page 164 in Example 5, a key signature of one sharp would not yield a Dorian on E. Undoubtedly, the author intends the added C-sharp in the quotation itself to produce the modal signature. However, as the quotation stands, A rather than E seems to be the modal center. The beautiful opening viola theme of the Concertina, Example 1, page 199, is such a classic example of a Dorian-originated theme that it could almost serve as a classroom illustration. Would it not be better to simply call it a Dorian melody?

Only occasionally do disturbing rhetorical fragments occur. "Hebraica," "works dominated by the emotions," "the emotions are allowed to reign freely," and "emotional expression with a vast intellect" are some. At the other extreme, the writing is so sparse on a few pages that we are pelted rather than wooed by description. A brief quotation from the lower part of one page will suffice to illustrate this sometimes laconic style: "The work is meditative in mood without being sentimental in the least. There are no emotional or tumultuous passages anywhere in the piece. The title seems to be general rather than specific. Its remoteness is due, in large part, to its lack of specificity." (!)

But these are minor aberrations in terms of the total study and should be no cause for concern. The real concern is, as stated before, with an understanding of Bloch and his music. If the reader feels that he can profit from a survey of Bloch's symphonic works, then this tabulation study will be valuable. If not, then it can be viewed as a useful contribution, with a more penetrating study of Bloch's style to come.

Footnotes

[1] Dika Newlin, "The Later Works of Ernest Bloch," Musical Quarterly (October 1947), pp. 443-459.

[2] Roger Sessions, "Ernest Bloch," Modern Music (November-December 1927), pp. 3-11.

[3] William Jones, The Music of Ernest Bloch, doctoral dissertation, Indiana University, 1963.

Laverty, Grace Elizabeth. The Development of Children's Concepts of Pitch, Duration, and Loudness as a Function of Grade Level. Pennsylvania State University, 1969. Order number 70-688. Reviewed by David Swanzy

Before any curriculum can be planned to facilitate concept learning, the basic concepts of the discipline must be identified. The Battery of Musical Concept Measures was developed in an earlier project by Andrews and Deihl to identify fourth graders' musical concepts. The main purposes of the present study were to measure and compare the musical concepts of children in grades three, five, and seven, using the two written group measures, Verbal and Listening, from this Battery and to test its adaptability to grades other than the fourth. It was expected that the measurement would reveal differences in the development of the concepts of pitch, duration and loudness among children at different grade levels. Differences between grades were expected to be greater on pitch scores than on loudness or duration scores, and differences between grades were expected to be greater on Verbal Measure scores than on Listening Measure scores. Another purpose was to test the relative efficiency of free and multiple-choice response formats for eliciting concept-related responses to the Listening Measure items.

The Procedure

From the public schools of Harrisburg, Pennsylvania, 565 pupils in grades three, five and seven were used for the study. This selection was made from heterogeneously grouped classrooms to represent a range of IQ and achievement levels. Various socio-economic groups and races were represented. In addition, 56 pupils were chosen in a similar manner for free-response testing.

The Battery of Musical Concept Measures, developed by Andrews and Diehl in 1965-67 was used as the measuring instrument. Reliability values were considered adequate for group measurement. In the Listening Measure of this test, the subject was asked to listen and identify changes in pitch, duration and loudness in a musical excerpt. The Verbal Measure concerned the selection of the best of five possible responses related to pitch, duration and loudness of natural and musical sounds. These sounds were recalled from experience rather than sounds heard.

Sample

If you sing out of tune, this means
you sing too fast.
you sing too softly.
you sing too loudly.
you sing higher or lower than the right notes.
you sing faster or slower than the class.

The Free-Response measurement used the Listening Measure but without multiple-choice answers.

The Results

Fifth graders scored significantly higher than third graders on pitch, duration and loudness, and seventh graders scored higher than fifth graders, although the difference was not significant for loudness. Similarly, Verbal and Listening Measure scores were higher in the upper grades. Of more importance were the findings related to the magnitude of the differences. The larger increase for pitch and duration was between grades five and seven, but the greater increase for loudness occurred between grades three and five. The magnitude of change, however, was not significantly different for any of the three dimensions. Also, the change from grade to grade in the Listening Measure scores was slightly greater than that for the Verbal Measure scores.

In establishing the adaptability of the Verbal and Listening Measures to grades other than the fourth, the researcher felt that once the reading barrier was removed by the investigator's reading aloud of the Verbal Measure items the process seemed well within the capacity of third graders. Examination of the scores bore out the contention in that it was neither an extremely difficult task for third graders nor an extremely easy one for seventh graders. In the grades tested, however, the Listening Measure showed consistently higher reliability than the Verbal Measure.

An examination of the free-response indicated that the subjects scored much higher when offered a choice of possibilities rather than when asked to construct a response. Factors such as labeling errors ("lower" for "softer") rather than wrong perceptual discrimination seemed to account for many mistakes, but this diminished in the upper grades. Equally revealing were the freer and more varied responses given in the earlier grades. The appearance of many responses descriptive of personal reaction to musical items suggests that the children are being taught to listen for story and mood in music rather than for musical phenomena.

Conclusions

It appears that the loudness concept may be developed at an earlier age than the pitch and duration concepts. Also, subjects in grades three, five and seven differ significantly in the development of the concepts of loudness, pitch and duration. One significant finding was a confirmation of Andrews and Deihl's conclusion that children confuse labels for the musical changes they seem to hear. The results of the Free Response measurement suggest that children are being taught or encouraged to listen for mood or story in music, and perhaps later for instrumental effects, without being taught to attend to the basic musical changes which contribute to the emotional aspects or result from the different instrumental combinations.

Critique

This research, as conducted by Dr. Laverty, has a good design and well-executed procedure. To limit concepts to pitch, duration and loudness seems unwarranted at times, especially in the later grades where the simple problem of developing the loudness concept seems insignificant when working with children with a much greater musical capacity. However, for research purposes this may be necessary and is acceptable as long as the interpretation of the project by readers is within this framework. There are limitations in most conceptual approaches to teaching, and music teachers should not accept conceptual organization of material simply because of its popularity. The conceptual approach undoubtedly gives strength to the music program, but its usefulness must not be accepted unquestionably.

The Free-Response measurement and its reported results are interesting in an otherwise bland project. Most of the meaningful conclusions and recommendations for further research seemed to evolve from this part of the study.

This project should establish Dr. Laverty as a respected scholar on the development of musical concepts in young children. It is hoped that she will continue her work in this area.

Leonard, Nels Jr. The Effect of Certain Intrinsic and Contextual Characteristics of the Tone Stimulus on Pitch Discrimination. West Virginia University, 1967. Order number 68-2685. Reviewed by George L. Duerksen.

"Pitch is, without question, one of the most important psychophysical variables of music" (p. 1). Although there may be some music in which pitch does not play a central role, interest in pitch has a long tradition in Western music. Pitch discrimination studies appeared early in the development of psychoacoustical research. Leonard cites the contradictory nature of earlier research and the apparent lack of adequate data concerning the variables which influence pitch discrimination as reasons for further research in this field.

Dr. Leonard's research examined the influence of register, intensity, timbre, duration, context, and interstimulus time interval on pitch discrimination. Separate discrimination tests for each variable asked subjects to listen to pairs of tones, and to indicate whether the second tone was higher or lower than the first. (The tones were always different pitches, the second being 10 cents higher or lower than the first.) The tests varied from 40 to 100 items (pairs of tones) in length, and no test took over 11 minutes to administer. Elementary education majors at West Liberty State College who were taking a music education class served as subjects. Class level and gender are not specified. The body of the thesis indicates a total of 64 subjects (pp. 34-35), while the abstract indicates 57 (p. 98).

According to the abstract, "all factors of the tone stimulus involved in this study, except for timbre, significantly affect pitch discrimination" (pp. 98-99). The following list of conclusions was abstracted from the text of the dissertation.

1. "While intensity did significantly affect pitch discrimination, the patterns of this effect were noticeably different with each pitch register. Particularly unexpected was a characteristic found with four of the patterns, which was that at two adjacent intensity levels, near the center of the intensity range, there were opposite and rather extreme effects; for example . . . at 40 db, the fewest number of errors, and at 45 db, the highest number of errors" (pp. 70-71).
2. "Of the registers investigated, it appears that discrimination is likely to be most accurate in the 125 cps register" (p. 71).
3. ". . . harmonic context can affect one's ability to discriminate. When the tone to be discriminated is heard after the sound of a chord has ceased, discrimination appears to be most accurate when this tone is heard as the

fifth of a minor triad, and almost as accurate when this tone is heard as the root of a major triad. Discrimination is likely to be poorest when the tone to be discriminated is the third of a major triad" (p. 72).

"When the tone to be discriminated is heard at the same time a chord is sounded, discrimination is likely to be most accurate when this tone is heard as the root of a seventh chord of the dominant seventh type, and almost as accurate when this tone is heard as the fifth of a minor triad. Discrimination appears to be poorest when the tone to be discriminated is the third of a minor triad" (p. 72).

4. ". . . Where intensity is the same, and where loudness is the same, timbre does not significantly effect pitch discrimination" (p. 72).

5. "The duration of the interstimulus time interval is likely to affect pitch discrimination; however, the trend or optimum is unclear" (p. 72).

6. "Discrimination is best when the tones to be discriminated are of 3/4 second duration. Discrimination is likely to become less accurate when the duration is either increased or decreased from this optimum" (pp. 72-73).

7. ". . . likely to be a tendency to perceive the second tone of a pair as lower when this pair is preceded by a higher tone, and . . . to perceive the second tone of a pair . . . as higher when this pair is preceded by a lower tone" (p. 73).

8. ". . . below the 500 cps register, there is likely to be a tendency to perceive the second tone of a pair of tones asllower, and . . . above the 1,000 cps register, . . . a tendency to perceive the second tone . . . as higher" (p. 73).

9. "Where the tones are soft pure sounds, there is likely to be a tendency to perceive the second tone of a pair . . . as higher, and where the tones are loud complex tones, there is likely to be a tendency to perceive the second tone . . . as lower" (pp. 73-74).

Two major considerations arise from Leonard's results: (1) Pitch discrimination is related to many stimulus variables and (2) interpretation of the specific relationships of several variables with pitch discrimination proves extremely difficult in the absence of a theoretical framework from which to view them. The first consideration has implications for a variety of music education problems including ability measurement and esthetic listening. The second has several implications for research.

Associations of pitch discrimination scores and stimulus variables were analyzed one stimulus variable at a time. This analysis revealed very irregular patterns of discrimination. For example, subjects scored well, discriminating in the 500 cps register, when the stimuli were at 35 db and 45 db above threshold; they scored significantly less well when the stimuli were at 40 db.

Different irregular discrimination score patterns were evident in the 250 and 1,000 cps registers. How are these irregular patterns to be explained? Are they predictable, or are they random? The answer is not clear from univariate analysis. Perhaps the next step should be multivariate analysis based on a well-developed theoretical system which generates hypotheses for experimental testing. Much useful information results from studies centered around research questions which pursue "what is." Perhaps some of the problems encountered in analysis of the results of such studies point out readiness for theory which will promote research which tests hypotheses which pursue "why is."

The process of Dr. Leonard's study provides a useful model. The dissertation research was based on a series of small pilot studies done in the course of graduate study. Such a series of preliminary studies may increase the skill of the student, and refine his approaches and techniques in the area of investigation; these benefits should culminate in improved dissertation research.

As usual, fault can be found. The dissertation's economy of explanation makes evaluation of its procedures and results somewhat difficult. The brief description of the development of the pitch discrimination tests omits data concerning reliability and test discrimination. Statistical analyses center on an unusual application of the chi-square test without discussion of why that technique was chosen. The procedure chapter says errors were counted and percentages of right and wrong answers computed (pp. 36-37), but the results chapter shows little concern with percentages. The discussion on pages 50 and 51 referring to Figure 4 seems more appropriate in reference to Figure 5, and the word "data" is used frequently as a singular form.

The dissertation used the chi-square technique to estimate whether the observed frequency of errors differed from the expected chance level. Several test results seemed to indicate a ratio of right to wrong answers poorer than that expected by chance. The dissertation interprets this phenomenon, saying ". . . it is inconceivable that a person could do poorer than chance, for such a ratio of right and wrong responses indicates no discrimination at all. Therefore, more errors than that of chance must be interpreted as no discrimination at all; i.e., the same as chance" (p. 50). Some might argue that in a study based on research questions, a significant departure from chance expectations contains information, no matter whether the departure is in number of right or wrong responses.

The succees of a study which depends so intimately on control of tonal stimuli hinges on quality equipment. The dissertation lists the devices used, but presents no specifications of the response capabilities of that equipment.

But setting aside such complaints, the study seems to be of value. To seek better knowledge of skills such as pitch discrimination seems a worthy goal. Such knowledge is prerequisite if music educators are to understand and influence the musical behavior of their students most effectively.

Leyden, Norman. A Study and Analysis of the Conducting Patterns of Arturo Toscanini. Columbia University, 1968. Order number 69-10,546.
Reviewed by Robert L. Cowden.

PURPOSES

The purposes of this study in the words of the author were:

1. To determine through study and analysis of kinescope films the configuration of the conducting patterns of Toscanini.
2. To determine to what extent these patterns are consistent in configuration and in relation to their musical contexts.
3. To determine to what extent the configurations of the various patterns resemble each other.
4. To compare the patterns demonstrated by Toscanini with those found in recently published textbooks on conducting.
5. To offer the data obtained from this project as a guide for the study and practice of conducting.
6. To offer the data obtained from this project as a basis for further studies in the field of conducting.

PROCEDURES

Ten kinescope films made by Toscanini with the NBC Symphony were used as the source of data. These films were originally shown on television at various intervals from 1948-1952 and include performances of the works of twelve composers representing classical, romantic, and impressionistic styles.

Portions of these kinescopes were rephotographed in 8 mm and were subsequently projected one frame at a time onto a 14" x 17" pad of tracing paper. Diagrams were then made of the conducting configurations. Beat patterns of one, two, three, four, five, and six were diagrammed. In addition, patterns showing subdivision, circles, and reverse beats were also illustrated.

Comparisons (using diagrams) were made between Toscanini's approach to the six basic beat patterns and those in the conducting textbooks of Green,[1] Kahn,[2] McElheran,[3] and Rudolf.[4]

CONCLUSIONS

Principal conclusions from the study were:

1. Arturo Toscanini employed a set of interrelated conducting patterns which exhibit consistent characteristics of shape and direction under all circumstances.
2. Toscanini's beat patterns emanate from one point in space, usually directly in front of his body. In every beat motion, there is an upward movement away from this point

and a downward movement returning to it.

3. The motions made by Toscanini are arc-like in shape.
4. Insofar as patterns are concerned, no difference was noted between Toscanini's conducting of instrumental and vocal music.
5. Circles and reverse beats exist as variations of the basic patterns and otherwise exhibit characteristics of the normal beat motions.

COMMENTS

Many problems in form and technique were apparent in this dissertation. There was no clear-cut statement of the problem, for example. It was neither stated, specified, nor defined. Several questionable phrases were used in the text, such as "consensus of opinion," "body of proof," and "articulations of the body."

Under a heading, "The Influence of Toscanini on Conducting," came a paragraph dealing with the hopes for the outcomes of the project. Under this same heading, we find such topics as Rationale, Purposes, Limitations, Definitions, and Procedures. It does not seem that these topics are appropriate subheadings to "Toscanini's Influence." Under the "Outcomes" heading appeared a paragraph beginning "It is hypothesized that . . ." The reviewer wonders whether outcomes have a place in an introductory chapter and indeed what the researcher's outcomes or even hoped-for outcomes really were.

Figures referred to were often several pages away from the text which explained them. The study contains 113 figures, yet the author did not list them in a separate section at the beginning with proper indexing. One minor point — Arabic numerals on page 293 begin indented and on the following pages appear at the margin.

This reviewer was concerned with the lack of material in the introductory chapter which would set the stage for the study. (The chapters in Dr. Leyden's dissertation were: Chapter I - Introduction; Chapter II - Analysis of the Conducting Patterns of Toscanini; Chapter III - Summary and Conclusions.) A great many assumptions were made concerning Toscanini's role as a conductor and his influence on music. More background is needed on the man, the musician, and the conductor. This information is available in both American and European publications and should be utilized to strengthen the case for his pedestal-like stature in the conducting world.

No reference was made to other research projects in the area of conducting. Indeed, the bibliography listed no theses or dissertations to indicate that the author had examined such sources.

The effort to compare Toscanini's configurations with those in four leading textbooks was an interesting one. The author admitted that the comparisons were somewhat artificial in that Toscanini's diagrams came from actual photographs. In the case of the textbook diagrams, they were purely diagrammatic abstractions. This reviewer wonders why the examples in the Noyes[5] text were not used as one of the bases for comparison since these, too, were taken from actual photographs. The biggest question to be raised here is the position of this material in the dissertation. It appears in Chapter III, Summary and Conclusions, and as new evidence at that point seems very much out of place.

The question of beat preparation occupies space in nearly all conducting texts. Yet it was not mentioned in this study. Does Toscanini use a preparatory beat? If so, what does it look like? How does it relate in size and character to what follows?

Other questions that remain unanswered are: What about beats that begin on counts other than *one*? Did Toscanini himself have any comments to make regarding his conducting configurations? Did the men who played under him have any comments to make? What about his thoughts on musical interpretation - particularly of the works which appear in the kinescopes? (Toscanini was not quoted throughout the study.)

Dr. Leyden's dissertation answers some interesting questions concerning the beat configurations of Toscanini. Any teacher of conducting would profit from this examination of an approach that in many ways is antithetical to more accepted patterns of beating time. The use of stop action photography provides a very systematic way to analyze conducting patterns, and the analysis itself is done in a very thorough manner by the researcher.

Problems in the study, however, in the areas of format, organization, and documentation make it considerably less effective as a piece of research than it might be.

REFERENCES

[1] Elizabeth Green, *The Modern Conductor*, (Englewood Cliffs, N.J.: Prentice-Hall, 1961).

[2] Emil Kahn, *Conducting*, (New York: The Free Press, 1965).

[3] Brock McElheran, *Conducting Technique*, (New York: Oxford University Press, 1966).

[4] Max Rudolf, *The Grammar of Conducting*, (New York: G. Schirmer, 1950).

[5] Frank Noyes, *Fundamentals of Conducting*, (Dubuque, Iowa: Wm. C. Brown Co., 1954).

Lockwood, Richard H. Rationale and Design for an Interdisciplinary Humanities Course at the Community College. Michigan State University, 1967. Order number 67-14,520.
Reviewed by Leon C. Karel.

This thesis probes three different problems which, by virtue of their having merged in the sixties, now present themselves as one. One is the old question of what shall be taught under the title of "the humanities." Another has to do with the college student who, in earlier days, would never have entered our institutions of higher education but now is found in increasing numbers there, especially in community colleges. The third is the suddenly felt need for a strong humanities emphasis (perhaps "humanitarian" is the more apt term) in the college curriculum - a counterbalancing factor against the scientific-technological thrust felt in the past century. Now, all of a sudden, colleges are faced with providing something which will persuade students that they are not numbers in the computer or faceless mobs in the classroom. And, at the same time, students are less amenable to the classic subject matter of the humanities, the traditional remedy for such feelings. Lockwood sets out to find some answers to these questions, basing his search on what has taken place in his state of Michigan.

He finds, first, that students in community colleges range from bright to mediocre (with rather more of the latter than would be found in the first two years of a four-year institution.) He also finds that, though educators in Michigan's community colleges think that humanities courses are worthwhile, few of the institutions offer them. Finally, he documents the concepts held by teachers and administrators as to the purposes and content of humanities courses and constructs a model course plan which can accommodate the three types of student found in these schools.

Terminal students, those who will not go beyond the second year of college, are most numerous, especially in certain of the metropolitan community colleges, and will be primarily interested in training as mechanics, secretaries, bookkeepers, and the like. For these students, Lockwood's plan offers two kinds of learning experiences: the "college and community activities" (lectures, concerts, plays, films, etc.), which are open to all students, and the "audio-tutorial" sessions. These latter are to be carried on in a laboratory equipped with student carrels, each of which would be supplied with the proper film, slides, tapes, discs, or other material needed to present that unit or segment of the course. Graphic materials, workbooks, and programmed units would be made available as need arose; the whole laboratory would be supervised by "a member of the teaching staff in attendance to supervise the facility and answer questions." According to the author, "mechanisms would be developed which would invite the student to make

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and record impressions and judgments, to react to the implications of material presented . . . to draw inferences and to hazard the 'educated guess'."

Lockwood takes pains to justify his reliance on a mechanical approach for the terminal student with quotes from several sources, each of which makes it quite clear that the teaching machine handles the routine, repetitive, drill, fact-finding aspects of teaching, leaving the creative, humanistic, inspirational work to the teacher, who now has more time to do it. He quotes Kenneth Norberg thus: "There is no need to fear that the machine will replace, degrade or regiment human teachers - or that it will dehumanize education." But, to this reviewer, if there _is_ no teacher, the dehumanization has already taken place.

Lockwood's plan for the other two classes of students includes both the "college and community activities" and the "audio-tutorial" work, and, in addition, a weekly "lecture-discussion" session. Here, the transfer students (those who would go on to a four-year institution) would enter into discussion, get new material from the instructor, exchange ideas, and so on. The author favors a "pass-fail" system of evaluation, grades to be supplied only if the student's new institution requires them.

The final class of students, those who will not only transfer but go into humanities area major work (art, English, music, history, etc.), would be required to take not only the three types of activity outlined above, but in addition, a "seminar and projects" session each week or bi-weekly. Here the instructor could help students in writing and research, creative work, initiate field trips, and generally work in small groups with the students.

Lockwood's plan has the virtue of facing up to the present shortage of teachers of humanities, as well as the growing flood of students who desperately need this type of instruction. His solution, mechanical from one aspect, just may not be so at all, provided the materials are effective. After all, films speak powerfully and personally to the young; could not a packaged set of audio-visual materials do so, too? One can only hope that Lockwood, in the several years since the thesis was finished, has had time to work out such materials and try them in actual community college classes. Any successes here should be of great interest to the profession.

Throughout the thesis, Lockwood cites numerous authorities in support of the viewpoint that the humanities must not be merely a subject matter coverage of the arts in history, or the exploration of the arts one after another, but must affect the life of the student directly and permanently. Phrases such as "the need for a philosophy of life" and "contact with the life of the spirit" indicate this area of concern. Yet there is curiously little in the thesis' design for a humanities course which deals with the problem of making the student a better person, a more fully realized human being. Lockwood has carefully defined three kinds of humanities study - through history, through art elements and principles, and through philosophy. Let us not forget that there is a fourth alternative, that of concentrating on the student himself, rather than on a body of subject matter. This type of course recognizes the student's need to make sense of his own world, find his place in it, relate to other human beings (not the least important being his teacher), and to learn to make aesthetic decisions for himself, based on something more substantial than the whim or fad of the moment. Each of the above types of course can be taught so as to achieve these ends, and each of them is often taught with exactly the opposite result. The crucial factor is, of course, the teacher and what he believes.

With the stage set for a truly explosive rise in lower level students attending our colleges and with the demands of these young people for relevant, meaningful courses, the colleges of our nation will turn to humanities and the arts for many of their answers. Lockwood's work, together with that of other pioneers in this area, should offer much in the way of leadership through the bewildering years just ahead.

Longazo, George. The Bassoon: Its Use in Selected Works of Shostakovich, Stravinsky and Shoenberg. University of Southern California, 1969. Order number 69-19,385. Reviewed by Lewis B. Hilton.

Longazo contends that although there is a greater demand for 20th century music by contemporary audiences, and therefore orchestras are playing more of it, the student bassoonist is handicapped in his professional preparation by a paucity of bassoon excerpts from 20th century scores. The purpose of the study was "to investigate the use of the bassoon in the works of Dmitri Shostakovich, Igor Stravinsky, and Arnold Schoenberg . . . in order to determine what specific problems and difficulties the bassoonist might anticipate when performing the works of these composers, and to organize and assemble excerpts in a way that would prove to be helpful to the bassoon student and professional performer." The author was also interested in drawing conclusions about the treatment of the bassoon by these three important 20th century composers, specifically:

1. To determine the extent to which consistent technical or rhythmic patterns are employed by each of the three composers.
2. To determine whether and in what ways each composer extended the technical demands made upon the performer.
3. To determine the extent of idiomatic usage of the bassoon by each composer.
4. To discover and compare common factors in the use of the bassoon by these composers.

Longazo does not explain why he chose the works of these particular composers for his study.

Those excerpts were chosen and annotated from the complete works of the three composers which featured problems in one or more of the following eight elements: (1) register; (2) articulation; (3) technical difficulty; (4) rhythmic difficulty; (5) dynamics; (6) melodic writing; (7) unusual technical demands; (8) endurance.

Longazo's procedure, after the preliminary chapter describing aims of the study, limitations, etc., was to present in the next three chapters annotated excerpts from each of the three composers, Shostakovich, Stravinsky, and Schoenberg, concluding each chapter with some comments regarding the characteristics of the composer's use of the bassoon.

The fifth chapter is devoted to comparative conclusions, a summary, and recommendations. There are three appendices devoted to a listing of the works of the three composers from which extracts were selected plus a bibliography.

CRITIQUE

While adequate university music libraries are expected to contain the works of the three composers treated in this dissertation, Longazo has obviously performed a real service to the student bassoonist in selecting excerpts that might pose particular problems to the orchestral bassoonist. He includes measure numbers for each excerpt so that the complete score can easily be consulted to place the excerpt in its context. The choice of excerpts seems reasonable and the brief accompanying discussions appropriate.

The feature which is most conspicuous by its virtual absence in this presumably didactic work is pedagogical commentary or suggestion regarding solutions to the performance problem posed. One would expect, for example, when difficult trills are reproduced, that a fingering would be suggested; if a pianissimo low register solo is included because of the performance problems, or when a bassoon glissando is called for, as in excerpt No. 561 from Schoenberg's *Von Heute auf Morgen*, that suggestions regarding the reed, breath support, embouchure and fingering, would be made. Apparently Longazo felt this was, for the most part, beyond the scope of his dissertation, and his commentary is usually descriptive rather than didactic. It is only fair to add that many of the excerpts were apparently chosen for their prominence in the score or because Longazo believed they demonstrate a characteristic use of the bassoon by the composer and no pedagogical commentary is really called for. Occasionally a helpful hint does appear in the commentary (e.g., example 554 from *Erwartung* by Schoenberg: "this rapidly tongued tremolo for second bassoon is made easier in performance if the whisper key lock is used"). This kind of suggestion, however, is the exception rather than the rule.

The final chapter which summarizes the characteristics of the use of the bassoon by each of the three composers is well done and of interest to the bassoonist as well as the student orchestrator.

Longazo concludes with the following recommendations for "future studies in regard to the use of the orchestral bassoon."

1. Comparative studies of other selected contemporary composers.
2. Studies of groups of composers within the same historical period.

3. Studies comparing composers from different historical periods.
4. Studies involving only the music of various composers written in a particular style, e.g., the 12-tone technique.

Lovett, Robert Emerson. Essential Factors and Considerations in the Administration of a College Music Department. Columbia University, Ed.D., 1964. Order number 65-2287. Reviewed by Simon V. Anderson.

THE STUDY

Having served as the chairman of a music department in a liberal arts college, Robert Emerson Lovett felt qualified to undertake this rather different research project. In addition to his personal observations, he draws on "techniques and knowledge acquired through recent graduate study at Teachers College" and on a survey of "selected literature on music education and administration." The study is, then, not a rigorous quantitative study, nor is it a distillation of distinguished opinions on the topic; it is, rather, a compendium of Lovett's personal beliefs as these beliefs have been supported and embellished in his recent reading and studies.

Part I establishes a frame of reference by considering college-level education, music in higher education, and music education in historical perspective. Part I also defines administration as an art and describes the institutional organization within which this art is practiced. Throughout Part I, the matters of decision-making, planning, organization, coordination, communication, cooperation, and evaluation are given careful treatment so that (very properly) the reader feels that these matters are completely interlaced at all times.

Part II "identifies problems peculiar to the music department, and applies the identified factors and considerations to their solution." In turn, each of several factors is examined: the nature of the (music) discipline, the development of performance skills, extracurricular demands on the music faculty and students, greater individual differences among music faculty and students, and special departmental housing and equipment requirements. The problems are treated in "a consideration of the areas of organization, personnel, morale, and operational activities."

Part III draws its conclusions from these previous considerations and submits nine principles as guidelines to the effective administration of the college music department:

1. Departmental objectives should be determined, based on overall institutional objectives.
2. Departmental policy in relation to institutional policy should be developed as needed and clearly defined.
3. Administrative activities should be structured to forward departmental goals.
4. Responsibility with commensurate authority should be assigned to qualified individuals.

5. Improving human relations should be given increasing emphasis and consideration.
6. Adequate provision for comprehensive and efficient operational activities should be made and continually reinforced.
7. Integrity should be the rock upon which the house is built.
8. Democracy should be the climate in which the department operation exists.
9. Constant evaluation must obtain.

Lovett then submits that "these principles coupled with a realistic working philosophy will enable the head of a music department to lead his team to the achievement of objectives through the process of effective administration."

Lovett's bibliography contains 93 entries from a wide range of secondary sources dealing generally with education, educational administration, music, and music education. Footnote documentation, although a bit on the modest side, indicates clearly that Lovett has not merely skimmed his readings, but has rather dug deep into his source material for the ideas which could and would support his position at any given moment.

Appendices A through C provide specific examples of typical budget request forms, general inventory forms, sample equipment issue forms, and similar items, as well as some remarks on state certification laws, a few quotations from a recent Commission on Higher Education, and several broad recommendations for public relations, fund-raising, and related operations out of the Office of Development.

CRITIQUE

Lovett does what he sets out to do. His writing is a bit uneven at times, but, generally speaking, he is easy to read, and makes good sense. He covers the subject in all its many aspects; he gets to the heart of each area; he moves well from one area to the next.

Two suggestions seem to be warranted: (1) a greater sweep in source materials would have turned up some refreshing observations, and (2) a more philosophical position - a more exalted approach - would have made the study a bit heavier, and, thus, more like a doctoral project-in-full.

Source readings from predictable publications (NEA materials, Basic Concepts in Music Education, and the like) are seldom of such power and cogency that they add any great new weight to a writer's belief. Frequently, Lovett's quotations merely proved that someone else agreed with him on a certain issue. If Lovett had drawn ideas and examples from other large institutions (big business, religion, government, labor), he would have had more convincing material at times.

A more exalted position on the whole subject would have been welcome. To present, in a doctoral study, an example of an issue form for issuing a band instrument, a budget request form, and other such pedestrian items reduces the tone and weight of the whole research project. The overall mood was one of expectation not quite fully satisfied. A more intense search for the delicate, hidden nuances of style and procedure which make one music department dynamic and strong as contrasted with another music department (with equally qualified instructors) just average or weak; a more scholarly probe into the subtle personality traits which seem to make for strong departmental leadership versus run-of-the-mill leadership: these and similar avenues of investigation would have made for a stronger final document.

All factors considered though, Lovett's paper is filled with good, common-sense suggestions on how to recognize and handle the essential factors and considerations in the difficult art of the administration of a college music department.

Mann, William Ray. Changes in the Level of Attitude Sophistication of College Students as a Measure of Teacher Effectiveness. University of Michigan, 1968. Order number 69-2351.
Reviewed by Edwin L. Simpson.

PURPOSE

The purpose of this study was to examine the instructor's behavior in the classroom and the personality and achievement characteristics of college students as possible variables to explain changes in attitude sophistication. Attitude sophistication was defined by Mann as "becoming worldly-wise in the ways of the accepted values of an academic discipline." It signifies a quality composed of both an affective and a cognitive component. It is closely associated with the higher order affective educational objectives suggested in the Taxonomy of Educational Objectives, The Classification of Educational Goals Handbook II: Affective Domain, Krathwohl, Bloom, and Masia, 1964. It was also Mann's intent to identify criterion other than course grade for estimating student progress.

METHODOLOGY

The research design was quasi-experimental using 286 introductory economics students as the experimental group and 31 introductory history students as the control group. All were enrolled for the 1967 fall term at the University of Michigan.

To reflect attitude sophistication both groups were pre- and posttested by means of a fourteen-item attitude questionnaire designed by Mann to test the effect of course content. Data on the effect of particular instructor behavioral characteristics on students were collected from student ratings on six factors:

1. general teaching skill
2. student-teacher rapport
3. student change in beliefs
4. feedback
5. value of the course
6. organization and structure

The Opinion, Attitude, and Interest Survey (OAIS) developed by Benno Fricke was administered to the experimental and control groups to estimate the effect of student personal characteristics on changes in attitude. The OAIS contains scales on Achiever Personality, Intellectual Quality, Creative Personality, Social Adjustment, Emotional Adjustment, Masculine Orientation, Business Interest, Humanities Interest, Social Science Interest, Physical Science Interest, and Biological Science Interest. Other student data considered were sex, SAT verbal and math scores, reading speed, and reading accuracy. With the final level of attitude sophistication and numerical course grade as dependent variables, a multiple regression analysis was made. Independent variables included personality and interest scales, student achievement scores, and four factors derived from student evaluation of instructors.

Mann's study examined four principal areas:

1. student characteristics
2. extracurricular influence
3. course content
4. student perceptions of the instructor and the course

Each area was explored with respect to its relationship with affective changes in the student. An investigation of extracurricular influences was accomplished by comparing one section of the experimental group with all other experimental sections. Students in the special section were participating in a pilot program which required them to be housed together. They were encouraged to interact out of the classroom setting on a regular basis.

HYPOTHESES

Three hypotheses were identified by Mann:

1. The pilot section of the experimental group will exhibit a greater mean increase in attitude sophistication than a regular section taught by the same instructor.
2. The mean attitudinal change of the control group will be less than that for the experimental group.
3. Instructors rated above the median in the six areas considered on the rating scale will have students whose mean change in attitude sophistication is greater than those students of instructors rated below the median in respective areas.

FINDINGS

Hypothesis I. A *t* test failed to indicate a significant difference between the mean change in attitude sophistication of the pilot section and all other experimental sections. Two possible implications of this finding would be:

1. Extracurricular influences do not affect attitude sophistication in the way hypothesized.
2. The treatment period (three months) was not of sufficient duration to bring about the degree of expected change.

Hypothesis 2. The experimental treatment clearly effected a positive shift in attitude sophistication level.

Hypothesis 3. The differences between instructors were not statistically significant for any area; however, a positive relationship was found to exist between student attitude sophistication and all other factors except student-teacher rapport.

Findings with regard to student characteristics revealed no significant relationship with attitude sophistication change or final course grade, however, some positive relationships did appear. For example, a positive regression coefficient existed between achiever personality and course grade as well as between social science interest and attitude sophistication.

Probably the most important finding through the examination of the student variables, as Mann points out, was that course grade and attitude sophistication are clearly different measures of changes in students.

CRITIQUE

As Dr. Mann certainly realized while completing his study, the exploratory nature of this research made the task a very ambitious and awkward one. Although many precautions were taken in an attempt to insure validity and reliability of his measures, several limitations, by the author's own admission, made handling the many variables difficult and thus made implications which might be drawn from the study somewhat inconclusive. This is not to say that significant and necessary work was not accomplished. Quite to the contrary, in the areas of behavioral and attitudinal research, which this work represents, it appears to this reviewer that the author has contributed much which may not necessarily be borne out by t tests. For example, he has developed a different instrument for evaluating student growth in the classroom which incorporates the increasingly important affective domain. Obviously this study represents one part of a larger research endeavor being carried on at the University of Michigan to determine the effect of many stimuli which students encounter during their educative experience. It is a commendable pilot project and such work should be continued.

IMPLICATIONS FOR MUSIC EDUCATION

Dr. Mann suggests in his concluding statements that the type of criteria which he has attempted to develop can and should be developed in other areas of learning. Music education is an example of a learning area which desperately needs different yardsticks for measuring growth. Musical growth in the past has largely been measured in cognitive terms: What one knows about the intricacies of music. For some who have overreacted to the inadequacy of the exclusive use of this method, measuring musical growth has become merely an estimation based on observable behavior. Although both have merit as means of judging pupil progress, they are both inadequate in that they do not accurately assess growth in affective areas: How music education influences such things as student values and interests.

More valid and reliable criteria to measure growth are requisite to improving music education instruction at all levels.

McCarthy, Kevin Joseph. Effects of Participation in School Music Performance Organizations on the Ability to Perceive Aesthetic Elements in Recorded Music. Case Western Reserve University, 1969. Order number 70-5118.
Reviewed by Newell H. Long.

PURPOSE AND PROCEDURES

The purpose of McCarthy's study was to test the effect of school chorus, orchestra, or band participation upon students' ability to perceive aesthetic elements in selected music examples. In order to accomplish this, McCarthy designed an original Test of Musical Perception by which he might measure analytic awareness of rhythm, melody, harmony, form and tone color in recorded pieces, one each from the Classical, Romantic and Modern period.

The subjects for the study, which used a posttest-control group design, were obtained from three high schools recommended by experts as having outstanding music organization. Each of the three schools had an orchestra, a band, and a chorus. From each of these nine groups 20 students were randomly selected to constitute an experimental group. Each experimental student was then matched with a control group student who had never participated in school performance organizations by means of a questionnaire and school records on sex, level in school, and mental ability.

The Test of Musical Perception developed for this investigation consisted of ten two-part questions on each of three compositions:

- Orchestral medium
  - Haydn, Symphony No. 100, 3rd movement - Classical period
- Choral medium
  - Brahms, Das Mädchen, Op. 93, No. 2 - Romantic
- Band medium
  - Schönberg, Theme and Variations, Op. 43a - Modern

All questions about these three compositions were answered by all 360 students in the nine experimental and nine control groups. Each subject responded to ten additional two-part questions concerning a standard composition in the current repertory of the band, orchestra, or chorus from which the experimental group had been drawn. The additional choral works were:

Copland, "Stomp Your Foot" from The Tender Land
Lassus, "Mon Coeur Se Recommande à Vous" (in English)
Randall Thompson, The Last Words of David

Pieces from the repertory of the orchestras were:

Schubert, Rosamunda Overture, Op. 26
Franck, Symphony in D minor, 1st movement
Beethoven, Symphony No. 7, 2nd movement

Pieces chosen from the current repertory of the bands were:

Tchaikowsky-Lake, Overture 1812, Op. 49
Delibes-Osterling, March and Procession of Bacchus (two bands)

In each question of the test subjects were to determine as true or false two statements. The various combinations of true-false for each pair of statements were combined into one multiple-choice format. Below is an example:

5. ______ Two melodies played at same time - Melody moves mostly by leaps
______ Not two melodies played at same time - Melody does not move mostly by leaps
______ Two melodies played at same time - Melody does not move mostly by leaps
______ Not two melodies played at same time - Melody moves mostly by leaps

All the pieces, recorded on tapes, were played in their entirety, but divided into ten sections separated by 16 seconds to allow for the identification of the next question by number and the reading of the two statements. At the end of each subtest the tape of that composition was replayed without the pauses between sections, but with question identification numbers announced.

The only criterion for validity applied to the 30 common test items was established by asking music faculty members at Case Western Reserve University three questions:

1. Are the instructions and sample questions clear?
2. Are the individual items clearly understandable?
3. In each case do you think the element of music is easy, medium, or difficult to hear?

Validity for the subtests dealing with current repertory pieces was similarly tested by presenting the subtests to faculty members at Fairmount (West Virginia) State College. Content validity was partially assessed through a review of the goals of music education as expressed in professional literature.

Since there were, in effect, eight forms of the test, one for each of the performing (experimental) groups and its corresponding control group, reliability coefficients were computed separately for each experimental group with its paired control group. (Since two bands had the same repertory number, they took the same repertory subtest.) The range of reliability coefficients was from .54 to .91, the average being .69.

By item analysis it was found that the mean difficulty for the ten Haydn questions was .63, for the ten Brahms items, .59 and for the ten relating to the Schönberg Variations, also .59. The respective mean indices of discrimination were .36, .31, and .28.

One important step in McCarthy's procedure was the administration of the Gordon Musical Aptitude Profile to the population studied and the use of this measurement as a covariate with the Test of Musical Perception scores. This technique was used to temper the scores on the test to allow for differences in musical aptitude; this was expressed by adjusted perception mean scores.

FINDINGS AND CONCLUSIONS

McCarthy's analysis of the data was summarized as follows:

1. The subjects' scores on the Musical Aptitude Profile were significantly correlated to their scores on the perception subtests dealing with Haydn, Brahms, and Schönberg pieces.
2. The treatments (participation in band, orchestra or chorus) had a significant positive effect on the subjects' perception scores on each subtest at the .01 level whether or not the aptitude score was taken into account.
3. When the perception subtest scores for each experimental group were adjusted to account for differences in group aptitude, Scheffé contrasts showed:
    a. perception scores for experimental groups were significantly higher than for control groups at the .01 level;
    b. perception scores for band and orchestra experimental groups were significantly higher than for their respective control groups at the .01 level;
    c. perception scores for choral groups were not significantly different from those of their respective control groups;
    d. no significant difference between scores for band groups and orchestra groups;
    e. scores for band and orchestra groups combined were significantly higher than scores for the choral group at the .01 level;
    f. performance groups which scored higher than their control groups on the subtest dealing with the composition they had performed also scored higher on the composition for their medium that they had not performed; and

g. experimental groups scored significantly higher than their control groups most often on the Haydn subtest, least often on the Brahms subtests.

By relating information from the questionnaire to the test scores the investigator identified these trends:

1. Perception scores did not increase as the number of years of participation increased.
2. Woodwind players perceived better than string, brass, or percussion players when aptitude was taken into consideration.
3. Chorus members who sang tenor perceived less well than the other singers, but differences between the other parts did not result in clear rankings.
4. First chair players in the bands clearly excelled in perception but this trend was not clear for orchestra sections, although second violins as a section were below the first violins.
5. Subjects who had had two or more years of piano study had higher perception scores than those who had not, but they also had higher aptitude scores.
6. Subjects whose family owned phonograph records worth $200 or more seemed to perceive better whether their aptitude score was higher or lower than the aptitude score of subjects whose families did not own so many records.
7. While there was no clear tendency for perception scores to correlate with socio-economic ratings, there was a slight one for subjects in the lowest socio-economic levels to score higher than aptitude scores would indicate.

McCarthy makes only an inference between the treatment and the behavior measured. He does not claim to have proven a causal relationship between participation in music organizations and ability to perceive music elements. He is careful to mention other interrelated factors which could have affected the data: teacher variability, student motivation, out-of-school music experiences, peer groups, and home environmental situations. In discussing these factors, he admits that differences in these factors might in part explain some of his results, but he presents good reasons for believing that the effects are not great and are generally counterbalanced by other effects.

CRITIQUE

McCarthy's study of a controversial area is a welcome endeavor. The research design was ingenious and commendable in that it avoided the contaminating effects which result from failure to control maturation, effect of a pretest on the posttest, and mortality.

A principal criticism of the study concerns the validity of the Test of Musical Perception. Since McCarthy relied exclusively on content validity, it should be noted that the aforementioned technique of having the ease and clarity of the items judged is insufficient and the content of the test, designed to measure ability to perceive aesthetic elements in recorded music, must be examined. The three subtests administered to all 360 subjects asked for true-false decisions about 60 bits of information distributed as follows:

9 statements dealing with tone color, e.g., "It is played by a French horn" or "The solo was not sung by an alto."
7 statements dealing with texture, e.g., "The number of players increases then decreases" or "Block chords accompany the melody."
2 statements concerning tempo, e.g., "The beat slows down."
10 dealing with rhythm or time values, e.g., "The notes are not equal in length" or "There are not three beats to the measure."
10 dealing with harmony, key or tonality, e.g., "This section begins in a new key" or "Ends on a minor chord."
11 concerning the character of the melody, e.g., "The melody moves by leaps" or "The lowest instrument moves by steps."
11 with form as exemplified in the melody, e.g., "The melody repeats with a slight change" or "The solo repeats what the chorus sang."

One cannot deny that such statements refer to elements which combine to make up features of works of art. One also senses, however, that a listener might be aware of these elements but unaware of the beauty created by the interaction of these elements. It is a narrow concept of perception in music that does not include awareness of such things as the barbaric, driving quality of a rhythm, the lyric grace that an arching melody may have, the unifying effect of motivic development, or the sting of dissonances in Contemporary music. A concept of "aesthetic elements" which ignores the quality of artistic expression seems sterile and barren.

Bennett Reimer, who makes a distinction between "aesthetic perception" and "aesthetic reaction," states that "what is perceived is perceived as expressive" (italics are Reimer's) and that "aesthetic perception is an active outgoing 'doing' which intensely involves the person in the aesthetic qualities of the thing being regarded." [1] Furthermore, Reimer says, "Aesthetic perception . . . is a complex behavior composed of many subbehaviors. When a person 'perceives' the aesthetic qualities of a thing he combines behaviors of recognizing, recalling, relating, identifying, differentiating, matching, subsuming, comparing, discriminating, synthesizing and a host of others both nameable and unnameable." In the opinion of this reviewer, the Test of Musical Perception devised by McCarthy fell far short of sampling the variety of awarenesses that constitute aesthetic perception. A subject's response to the questions on the test did require him to recognize, recall, relate, identify, differentiate, match, and compare simple "events" on an objective level. However, discriminating, synthesizing or the other "nameable and unnameable behaviors" suggested by Reimer in aesthetic perception were not engaged.

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[1] Bennett Reimer, A Philosophy of Music Education, Englewood Cliffs, N.J., Prentice-Hall, Inc., 1970, pp. 79-81.

The researcher, in his attempt to establish content validity, neglected to ask his experts if they considered his selections of statements for the test questions a fair sampling of the "aesthetic elements" or whether they thought any of them were important aesthetically. He excused his failure to obtain concurrent validity on the basis that other tests were not available. Judging from his bibliography, he knew that by 1963 John Fluke had developed a Test in Music Perception for High School Performance Groups and that the Indiana-Oregon Music Discrimination Test had been developed from Hevner's Oregon Test in 1965. While not distributed commercially, both the Fluke and the Indiana-Oregon tests were available to researchers at the time of the McCarthy study.

Combining the four possible combinations of true-false statements into the format of a four-choice question may have been damaging to both validity and reliability. The form increased the amount of reading that had to be done by the respondee, thus interfering with his listening and increasing the possibility of confusion. McCarthy indicates that, "the subject is presented with a choice between alternate answers regarding each of two separate elements of music, often occurring simultaneously." This condition may simulate a common listening situation wherein the listener needs to be aware of concurrent events in music, thus enhancing the validity of the test. It is also possible, however, that the forced attention to two elements at the same time may encourage the subject to look for a combined effect or interaction of the two elements thus diverting his attention and perception from aspects of one element which could be relatively independent of the other element. If the requirement of a two-way decision complicated the task and caused confusion or diversion of attention from an element to be perceived, validity would be negatively affected.

Responses to the questions in multiple-choice format should be compared with simple true-false responses to the separate statements to see whether the more complex format induces the more incorrect responses. This procedure may indicate that 40 responses to four-choice items can produce the same reliability obtained in true-false items requiring 80 responses.

McCarthy is critical of existing music discrimination tests because they present only short excerpts of pieces. He points out that "musical understanding or aesthetic sensitivity is most adequately reflected in the performance of complete works of recognized merit." However, his Test of Musical Perception, while it presents entire pieces, does so piecemeal with nine interruptions in each one for reading the questions and identification of questions by number. Furthermore, the questions themselves do little or nothing to focus attention on each piece as a whole. In fact, the questions definitely fragment the listening experience.

There are some interesting differences and similarities between McCarthy's findings and those from the reviewer's 1967 research summarized in a recent issue of this Bulletin.[2] Whereas McCarthy found no definite trend for perception scores to increase as the number of years of participation increased, Long reported a correlation of .27 between years of school band and/or orchestra membership and music discrimination test scores and a correlation of .38 for choral experience with music discrimination.. These results should encourage McCarthy to be more confident of a similar relationship which he reported with reservations.

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[2] Newell H. Long, Establishment of Standards for the Indiana-Oregon Music Discrimination Test with an Analysis of Elements of Environment, Intelligence and Musical Experience and Training in Relation to Music Discrimination, Washington, Office of Education, Department of Health, Education and Welfare, 1968. Summarized in Council for Research in Music Education, Bulletin No. 25, Summer, 1971.

Michalski, Stanley F. Jr. The Development and Evaluation of a Visual-Aural Program for Self-Instruction in Conceptual Understanding of the Basic Elements of Music. Pennsylvania State University, 1966. Order number 67-11, 217.
Reviewed by Edward L. Rainbow.

This study was designed to test the effectiveness of programed instruction in teaching a conceptual understanding of the basic elements of music to college level elementary music majors. In order to pursue the investigation, Michalski developed a visual-aural program for self-instruction and a conceptual understanding test.[1]

Using the conceptual understanding test as the criterion measure, Michalski sought to compare the effectiveness of two methods of instruction: (1) a visual-aural program of self-instruction and (2) the traditional classroom lecture-discussion method.

The study also proposed to analyze the relationship of the conceptual understanding of the basic elements of music, as measured by tests of musical concepts, to musical, verbal, and mathematical aptitudes.

For this study, the basic elements of music consisted of pitch, intensity, duration, and timbre. A self-instruction program of one hundred and eight frames, organized by the linear method, was developed. Twenty-seven of the one hundred and eight frames utilized tape-recorded musical examples that were relevant to the sequential pattern of presentation. The program did not require previous musical instruction as prerequisite for completion, and all musical notation was omitted from the program. The program underwent thorough study and revision prior to its use in the experiment.

In order to measure conceptual understanding of the basic elements of music, a thirty-three question, multiple-choice test was developed. The test was composed of fifteen items containing tape-recorded musical examples, composed by Michalski, and eighteen verbal questions. The test, in its final form, had a reported reliability coefficient of .55.

DESIGN OF THE STUDY

In order to study the effectiveness of the two teaching methods, two groups of students were formed. The experimental group consisted of twenty students enrolled in a music course required of all elementary education majors. Michalski was in charge of this group.

The control group consisted of a total of thirty-three students enrolled in two other sections of the required elementary education music course. These students were taught by another member of the music staff. As an added control, one section of thirty-five students enrolled in a mathematics course, in which no music was taught, was included to determine whether conceptual understanding of the basic elements of music could occur by chance. Michalski reported that the students were randomly assigned to all of the above sections by IBM computer.

During the first class meeting, Michalski administered to all students in the experimental and control groups his Visual-Aural Conceptual Understanding Test. During the second class meeting, Ned Deihl's Measures of Musical Concepts was administered; and during the third class meeting, Gaston's Test of Musicality was given. The class did not meet again until all members had completed the programed material. At no time were the members of the experimental or control groups informed that they were participating in an experiment. Likewise, the instructors of the control groups were similarly uninformed.

The Gaston Test of Musicality is a well-known standardized test and reports a reliability coefficient of .90 for grades 10-12. The Measures of Musical Concepts is a test developed by Ned Deihl and has reported reliability coefficients ranging from .55 to .65. Scores for the verbal and mathematical aptitude variables were obtained from the College Entrance Examination Board Tests. The scores of these tests were recorded in the students' personal records.

Following the administration of the tests, regular class sessions for the experimental group were cancelled, and the students were assigned scheduled times to use the visual-aural self-instruction program. The students in the control sections attended their regularly scheduled classes and were taught by the traditional lecture-discussion method.

After all the students in the experimental group completed the self-instruction program, the investigator's conceptual understanding test and Deihl's Measures of Musical Concepts were readministered to the entire sample as posttest measures.

STATISTICAL TECHNIQUES

The following statistical techniques were utilized in developing the test measures and analyzing the data: (1) item analysis, (2) t test for differences in mean scores, (3) intercorrelation, and (4) multiple regression with parsimony.

RESULTS

1. In order to investigate the effectiveness of the two methods of instruction, a t test for differences in mean scores was employed. When differences in the mean scores in the pre- and posttest administration of the Visual-Aural Conceptual Understanding Test were compared, a significant difference among methods of instruction was noted. When the pre- and posttest scores for the experimental group were compared, a gain in scoring, significant at the .001 level, was calculated. In neither the control music group nor the nonmusic class was a significant t value obtained for differences in pre- and posttest mean scores. When mean gain scores on the conceptual understanding test were analyzed, the experimental group using the self-instruction program obtained significant gains in mean scores by comparison to either of the control groups.

2. No significant difference was reported among the methods of instruction when mean scores and mean gain scores on the Deihl Measures of Musical Concepts were compared.

3. A significant relationship existed between scores on Deihl's test and verbal aptitude as measured by the College Entrance Examination Board Test. A significant relationship between Deihl's test and mathematical aptitude also existed.

4. A significant relationship existed between Gaston's Test of Musicality and both Michalski's and Deihl's tests.

CONCLUSIONS

Based upon the above results, Michalski concluded that: (1) conceptual understanding of the basic elements of music can be effectively taught by programed instruction, (2) Deihl's Measures of Musical Concepts cannot evaluate the effectiveness of this learning, (3) a significant relationship exists between verbal aptitude and understanding musical concepts as measured by Deihl's Measures of Musical Concepts, (4) students with high mathematical aptitude tend to learn the conceptual understanding of the basic elements of music more effectively when taught by the self-instruction program rather than by the traditional classroom method, (5) Gaston's Test of Musicality correlates significantly with Deihl's Measures of Musical Concepts, and (6) the significant correlation between pre- and post- measures and Gaston's Test of Musicality implies that students with a high degree of musicality are more likely to achieve conceptual understanding of the basic elements of music as defined for this study.

CRITIQUE

Michalski's study is another in an area of investigation that appears to be a popular avenue of research for graduate students. In fact, one wonders what doctoral candidates in music would have chosen for research topics this past decade if B. F. Skinner had not so strongly influenced the educational scene.

The fact that programed instruction can be successful in teaching factual knowledge is well documented by research studies. Michalski has attempted to show that conceptual understandings as well as factual knowledge can be taught by a carefully designed set of programed materials.

Unfortunately, while Michalski's study supports the use of visual-aural programs in teaching the concepts of pitch, duration, intensity, and timbre, a lack of experimental control negates a substantial portion of his findings. For example, following the administration of the pretest, all class meetings for the experimental group were dismissed and the members of the experimental group were scheduled to use the visual-aural program. Upon completion of the program, posttests were administered to both the control and the experimental sections. However, we do not know how long it took to complete the program. We are informed that the time was "limited to that portion of the second semester of the 1965-1966 school year during which the study of the basic elements of music was undertaken." (p. 18). Was the time allocated to programed instruction equal to the time allotted to classroom instruction? How long did the control group spend on similar materials, one day or until the slowest student in the experimental group finished the program? Michalski does not inform the reader on this matter. He states "the investigator assumed materials presented in the classes were equivalent in content." (p. 19).

In addition, the instructor of the control group classes was not informed of the experiment. Is there any real assurance that the instructor of these classes even covered material similar to that which was covered in the visual-aural program or that he even attempted to develop the aural concepts that were tested in the Visual-Aural Conceptual Understanding Test?

Many courses aimed at teaching music skills to elementary education majors devote the early portion of the course to rote singing, the reading of music notation, and keyboard skills. Aural skills are left to be developed at a later time. Michalski's program did not include music notation. The program was aimed at the development of aural perception and the development of the concepts of pitch, intensity, duration, and timbre. A glance at the raw scores that Michalski wisely included in the appendix, indicates that the course content of the two methods may not have been similar. Of the thirty-three students in the control group, fourteen students had posttest scores that were lower than their pretest; one student showed no improvement. Of the twenty students in the experimental group, nineteen students evidenced a gain in scores from pretest to posttest; one student scored the same.

Michalski states that the study was designed to test the effectiveness of programed learning in teaching a conceptual understanding of the basic elements of music.

Although the investigator specifically sought to compare the effectiveness of two methods of instruction, the results of this study will not support the comparative effectiveness of either method, since there is no assurance that the two methods of instruction had similar objectives or even attempted to teach, during the course of the experiment, subject matter that was similar. Michalski should have controlled the content of the course taught to the control group, as well as the experimental group, in order to insure that similar objectives were present for both groups. This might have resulted in some testing bias, but the danger of lack of control far outweighs the danger of teaching bias.

Although he used the techniques of multiple regression in the statistical treatment of his data, Michalski failed to use this information in developing his conclusions or in the discussion of the implications of his research. Indeed, the reviewer questions the use of regression analysis, an analysis that is predictive in nature, in view of the stated objectives of the project. Regression analysis seems to be of little importance to the central purpose of the study.

Michalski has shown care in constructing his program and his test. The item analysis procedure he used was also commendable. The need for this type of study has been well-documented, and the effort that Michalski has expended in organizing his work should benefit a future researcher who wishes to undertake a similar project.

FOOTNOTE

[1] Michalski entitled the program: Visual-Aural Program for Self-Instruction. The concept test is called: Visual-Aural Conceptual Understanding Test.

Mitchum, John Pios. The Wing Standardised Tests of Musical Intelligence: An Investigation of Predictability with Selected Seventh-Grade Beginning-Band Students. Florida State University, 1968. Order No. 70-8565.
Reviewed by William T. Young.

The primary purpose of this study was the investigation of the predictive validity possessed by the Wing Standardised Tests of Musical Intelligence. A secondary purpose was to determine the possible value for predicting musical success of intelligence, social status, academic achievement, and a teacher's assessment of students' potential for success.

The design of the study involved the employment of predictor variables, criterion variables, and correlations between them. Data were obtained in November of 1968 on the following:

1. Wing Standardised Tests of Musical Intelligence.
2. Rating of each student's potential for success in future band participation secured from their instrumental music teachers.
3. California Test of Mental Maturity.
4. Comprehensive Tests of Basic Skills.

After a six months period, during which musical instruction was continued, the following data were assembled:

1. A second administration of the Wing Standardised Tests of Musical Intelligence.
2. A second rating from the students' band directors on each student's potential for success in future band participation.
3. Scores on the Watkins-Farnum Performance Scale, an individually administered sight-reading test for instrumentalists.

Complete data were assembled for 76 students and partial data for an additional 10 that were used in some of the analyses. Zero order coefficients were reported between all variables. An abbreviated correlation matrix, based on the author's Table 3, is given in Table 1.

The investigator concluded from this analysis that the Wing test was not an effective predictor of success on the Watkins-Farnum test. He also concluded that the latter test seemed to be too easy for the drum students. (Of a total of 9 drummers, six rate an "A" grade and three a "B.")

He therefore removed the data for these students and repeated the correlation matrix, with slight, but largely unimportant differences in the resulting correlations.

TABLE 1. CORRELATION MATRIX BETWEEN PREDICTOR AND CRITERION VARIABLES

Predictor Variables	Criterion Variables		
	Wing test (2nd adm.)	Watkins-Farnum test	Teacher Rating (2nd)
Wing Standardised Tests of Musical Intelligence (1st administration)	.82	.35	.42
Social Status	.36	.35	.40
Comprehensive Tests of Basic Skills (academic achievement)	.38	.50	.48
California Tests of Mental Maturity (IQ)	.41	.49	.45
Teacher Ratings (1st time)	.35	.22	.58

In an attempt to obtain higher predictive coefficients, the investigator then calculated twenty-eight separate multiple correlation problems using combinations of two to seven predictor variables. For twenty-one of these that were cited, a multiple R=.53 was obtained for six, R=.54 for nine, and R=.55 for six. The highest multiple R, using the least number of predictor variables was an R=.55 employing a combination of Wing Pitch Change, Wing Music Memory, Social Status, California Test of Mental Maturity Composite, and the Comprehensive Test of Basic Skills Composite.

In addition to the conclusion that the Wing test was not a satisfactory predictor of future instrumental performance, the investigator also discounted teacher prophecies and social status as effective for prognosis. The conclusion was reached that intelligence (CTMM) and academic achievement (CTBS) both held potential for prediction, and of these, academic achievement showed the most promise.

The investigator also concluded that, "the Watkins-Farnum Performance Scale appeared to be as proficient as past reports have claimed for it." He did not identify the "past reports." While this reviewer would not take exception to the statement itself, it seems inappropriate as a conclusion to this study, since there was no data to support it. The only substantiation that could be found in the thesis was on page 108: "to the researcher, all Watkins-Farnum tests appeared to be quite proficient inasmuch as performing ability of students was determined in a short amount of time." Brevity is hardly sufficient basis for proficiency.

CRITIQUE

The topic and the design of this study were commendable. Furthermore, much of the physical operation of the investigation appears to have been adequately controlled. The major faults of the project were the awkward and incomplete manner in which the data were presented, accompanied by a naive and, in some instances, unconventional interpretation of the statistical results. Unfortunately, the questionable aspects of the presentation were of sufficient importance to render the conclusions problematical.

One confusing factor in the dissertation involved the Watkins-Farnum test which served as the dependent variable. In the initial presentation of the scores for this test, both a numerical score and a letter grade score were cited for each subject (Author's table 1). In subsequent discussions, only the designation "Watkins-Farnum scores" was used. While one assumes the investigator was referring to the numerical scores, there was always a lagging doubt that perhaps he meant letter grades.

Another disturbing element was the complete absence of means or standard deviations for any of the data. These would seem to be basic statistics to be included in a study of this type. Not only would they have been of interest in themselves, they would have provided assistance for the interpretation of the correlation coefficients upon which the conclusions were based. The size of a correlation coefficient is dependent upon the variability of the scores. The greater the variability, the higher the correlation, other things being equal. A major omission such as this, greatly reduces the confidence with which the results may be accepted.

It is customary for measures which are to be employed for prediction to be taken before training is initiated. In this study, training had already begun before the predictor measures were administered. Just how much training the subjects had received prior to the administration of the predictor tests was not clearly stated. The general impression given at various points in the text was that this period was of negligible length. On the other hand, the teachers were expected to know the student's capabilities well enough to assess their potential for future success. The only information provided by the investigator appears on page 86 where he refers to the previous training of the students as, "a short few days or weeks." If, indeed, the teachers had only worked with the students a "few short days," their ratings of the students' potential could not have had much validity. If, on the other hand, the training period had started several weeks before the testing session, the teachers' ratings would probably possess validity, but the validity of the test scores to serve as predictors would be open to question.

One further question occurs relative to the manner in which the teachers' ratings were handled. Each teacher was allowed to use his own criteria for evaluation of his students. Ratings derived in this manner are subject to the training, experience, competency, and value judgments of the teacher, and will vary from one person to another. Under these circumstances these ratings could hardly be averaged together with confidence, but that is what was apparently done.

In general, the correlation matrices, upon which the results of the thesis were based, were poorly laid out. Each table contained twenty-one variables and extended over three pages. Moreover the coefficients presented on the middle page of the three were neither labelled nor numbered so that it was necessary to count down each column to locate a particular variable. Apparently these tables were reproduced exactly from the computer output sheets and the result was a large conglomerate mass of numbers. A more effective presentation would have been possible had the investigator separately displayed and discussed test intercorrelations, coefficients of concurrent relationships, and predictive coefficients. Rarely should it be necessary to extend tables over three pages.

One of the variables in the correlation matrix was identified as "instruments." Grouping was as follows: Upper woodwind = 1, lower woodwind = 2, upper brass = 3, lower brass = 4, and drums = 5. These numbers were assigned and apparently treated as scores, added, averaged, and correlated with other test scores and ratings. This, of course, cannot be done and the resulting coefficients are meaningless. Nevertheless, the investigator discussed these correlations as indicating the amount of relationship between instruments and other variables.

Several times in his text, the investigator referred to the "low reliability" of the Wing test. These statements were based on the correlation coefficients obtained between two administrations of the battery, the first given in November and the second in May after six months of musical training. While these coefficients may, or may not, reflect the true statistical reliability of the Wing battery, test-retest reliability does not usually include six months of additional training between administrations. Generally, the longer the time interval between test administrations, the greater the error variance which is present. This, in turn, decreases the likelihood of an accurate estimate of test reliability. In fairness to the Wing battery, these statements concerning reliability should not be accepted as fact.

Finally, the investigator could have saved himself a considerable amount of work if he had employed a deletion or addition regression program. This type of program would have indicated those variables most signigicantly related to the dependent criterion without the necessity of doing twenty-eight separate multiple correlation problems.

As previously stated, the underlying idea of the study was good and the physical conduct of the investigation was generally well controlled. The presentation and interpretation of the data, however, was faulty and appears to have been undertaken with an insufficient knowledge of statistical procedure. This is unfortunate since a more convincing statistical analysis could have rendered this thesis a first class piece of research.

Mogilnicki, Robert Leon. The Educational Implications of Some Writings on the Development of the Affective Domain in Children. Boston University, 1968. Order number 69-7863. Reviewed by Ira P. Schwarz.

This short (128 pages), very readable dissertation explores some of the significant writings concerning the affective domain in education - particularly art education. The word "child" as used in the title is somewhat misleading, since most of the concepts discussed are applicable to almost all levels of education.

Extrinsically, the writing itself may be described as an affective presentational exercise, for the author is a most competent literary craftsman. (Unfortunately, one rarely finds a scholarly work to be fun!)

Perhaps there are some critics who would not consider this work "scholarly" in the strictest sense, since the format does not fit easily into one of the more traditional molds (or ruts). Researchers of the "random school" may disagree with Mr. Mogilnicki's selective procedure, since it is arguable that bias is an inherent aspect of selection. Historically oriented readers may feel that the selection is too limited. The author unabashedly points out in the introduction that particular writers were selected because they "have advanced the importance of the feeling aspects of learning." He also states that "authors were selected as champions of the cause rather than on the basis of chronological succession." Mogilnicki seems to know exactly where he is going and disdainfully shrugs off any temptation to meander for the sake of academic propriety. Perhaps it is this directness which lends his writing a sense of excitement. This appeal to feeling (as well as cognition) is incorporated in the statement of the problem:

> It is hoped that from this study will emerge a new commitment for education, the mandate for a coherent program of impression and expression. Through this program the individual may enter into a new dialogue with the world. Until such time man will continue to be free - and everywhere in chains.

The writings mentioned in the title include selected works of Herbart, Froebel, Montessori, Dewey, Arnheim, and Kepes. They are "reassessed in terms of their relevance to the development of the affective domain in children and their pertinence for contemporary education." Relevance and pertinence are determined or measured by their degree of applicability to six stated assumptions:

A. The public schools should offer equitable experiences that provide for the development of both the affective and cognitive domains.

B. The public schools do not offer experiences which adequately focus on affective behavioral responses.

C. A study of past attempts at the development of the affective domain in children will reveal new perspectives of their relevance for contemporary education.

D. A study of current attempts at the development of the affective domain in children will yield an insight into the potential degree to which this development may contribute to the total growth of the child in contemporary education.

E. The increasing indeterminacy of life roles, due to the "explosions" on all fronts of human endeavor, presents a mandate for the exploration of human resources.

F. The development of the affective domain in children may make a significant and necessary contribution in terms of educational growth.

There is an emphasis on affective behavior in the selected writings, but Mogilnicki is also concerned with the interrelationships of the affective and cognitive domains. He states that "although particular criteria have been developed for an interpretative analysis of individuals, one general criterion emerges: The affective and cognitive experiences are not disparate entities but mutually reinforcing factors of integrated experience."

Perhaps the presentation of the writings of the six authors is, in itself, not new; but the total thesis presentation achieves a uniqueness through the juxtaposition and synthesis of the writings. Rather than resembling a theme and variations approach, the structure is more like a sonata-allegro with a well-defined but interdependent exposition, development, and recapitulation.

The implications of the writings are utilized from a substantive rather than a statistical point of view. Herbart's ideas are explored within the context of his concept of anschauung or observation which "affords the opportunity for the learner to reflect upon and assimilate the credibility of his inquiry through perceptive experience." The curriculum theories of Froebel are considered through the humanistic need for inner freedom as found through the harmony of thinking, feeling, and doing. Montessori's emphasis on sensory education is limited according to Mogilnicki. "Since the materials are self-corrective, they are also self-centered in that the child is never encouraged to explore the divergent meanings and implications of the lessons learned in the psychological sense." Dewey's concept of integrated experience through faith, art, and nature is substantially but not unqualifiedly accepted, since the "exclusion of any consideration for affect and volition isolates the experience into the anaesthetic category." Arnheim establishes the relationship between the cognitive and affective areas through the integration of percept and concept. This implies an educational responsibility to develop a perceptive sensitivity within the student and to provide the "opportunity for the expression of felt-thought through media other than language." Kepes reaffirms Froebel's idea of freedom. The focus of Kepes, however, is on the education of vision, not in the optical or retinal sense, "but as an integration of emotional, sensory, and intellectual imagery."

This dissertation is recommended reading for all educators -- and particularly art educators. The arts, either from the standpoint of the producer or receiver, deal primarily with affect. Yet in art education, this fundamental fact is often overlooked or avoided. The preponderance of cognitive questions found in art-music examinations seems to bear this out. There are still so many things left to be learned about evaluation of the affective thought processes. Music researchers would do well to consider Mogilnicki's suggestion for further research:

> . . . the most exciting area for further research is indicated in the work of Gyorgy Kepes. While his concept of vision is not limited to the visual arts, his examples are. Music and movement need to be explored and integrated in the same sophisticated and comprehensive manner.

Monroe, Mary Elizabeth. A Study of Music Reading in Elementary School Utilizing Certain Related Aspects of Language Reading. Columbia University, Ed.D., 1967. Order number 67-9450. Reviewed by William T. Young.

In an average American town of a little more than a century ago, anyone who knew how to read and write was treated with respect and regarded as a learned person. Today, however, the majority of people can read and write, and the possession of these abilities, while certainly of great importance, is not considered unusual. The situation today in music is analogous, in this respect, to that which confronted language reading over a century ago. Comparatively few people have the ability to read or write music, and those who possess these skills are considered to be unusually talented. Today, millions of people enjoy books, magazines, and newspapers because they were taught to read while in elementary school. Perhaps in the future, more people will be able to enjoy music to a greater degree because they will have learned to read it in school.

The existence of similarities between the teaching and learning processes of the language reading program and those of the music reading program have been noted by many music educators through the years. During the earlier decades of this century, the teaching of music reading was given comparatively less attention than is now the case, and such comparisons, while often meaningful, were considered to be of only passing importance. In recent years, however, there has been a shift in emphasis in many music programs with the result that relatively more attention is being given to the teaching of music reading. Perhaps this change has been brought about, in part, by the introduction of new techniques and concepts derived from the teachings of Orff, Kodaly, Suzuki, and others. Then, too, perhaps at least some of the motivation for change emanates from the realization by many music educators that some identifiable and measurable learning must take place in the public school music program, or it may soon face extinction as a curricular subject.

The Study

The purpose of this study, as set forth in Chapter One, was to investigate certain aspects of teaching language reading and music reading which might result in greater insight into the music reading process as a whole in the elementary school. Specifically, the writer sought to identify those principles and practices which appeared to be common to the two fields and to discover any unique processes in the teaching of language which might serve to initiate the exploration of new ideas in teaching music. reading. In addition, the following secondary purposes were presented:

1. To suggest procedures for developing connections between ear, eye, and understanding as the key to music reading.
2. To suggest ways of developing a sequence of musical learnings based on the current developmental approach to music reading.
3. To suggest examples of musical experiences to show how skills in music reading are developed on each grade level.

In order to accomplish these stated purposes, the writer relied primarily on the writings of selected authorities in the areas of language arts and music education, and on her own personal teaching experience.

Chapter Two of the thesis was devoted to the principles and practices of teaching language reading. The first of five sections presented a brief overview of the historical development of the teaching of language reading. The fact that the information for this section was extracted entirely from the writings of only one author was defended by the writer on the basis that this was the only authoritative source on the subject.

Subsequent sections of this chapter dealt with the importance of preschool activities on the development of reading, techniques and practices appropriate for use in the first three elementary grades, and those suitable for use in grades 4, 5, and 6. A final section discussed specific word recognition skills, eye movements, comprehension abilities, and similar aspects of teaching language reading.

The subject of Chapter Three was principles and practices in music reading. A format, similar to that employed in the preceding chapter, was followed. An initial section was devoted to a brief historical survey of the development of music reading. This was followed, as in Chapter Two, by three additional sections containing discussions on the importance of preschool experiences, musical experiences in grades one through three, and experiences at the intermediate grade level.

The contents of Chapter Four dealt with similarities and differences in teaching language reading and teaching music, and was based on material which had been presented in the two preceding chapters. Among the similarities in the two programs identified by the writer were:

1. The importance of preschool experiences to both areas.
2. The importance of providing for individual differences.
3. The need for the development of aural and visual perception in both areas.
4. The need to develop listening vocabularies in both areas.

5. The importance of sight vocabularies of words (tonal and rhythm patterns in the case of music) in both areas.
6. The identification of the symbolic language in both areas is done through configuration and context.
7. The use of books in both areas.
8. The need for motivation in both areas.
9. The encouragement of independence in both areas.

Some differences in the language reading program and the music program, as identified by the thesis writer, are as follows:

1. "Language is read from left to right along a single line. Music is read, not only from left to right, but is also read up and down." (In this statement, the writer was alluding to the fact that, in reading a song, it is necessary to read a line of text simultaneously with a line of music, thus there is a vertical aspect involved as well as a horizontal one).
2. "Skill in reading language arts is determined in terms of speed, but skill in music reading is based upon quality of performance and cannot be determined solely by speed." (The comparison here is not quite accurate; speed in the identification of symbolic configurations is probably more equal in both areas than the thesis writer indicates. Quality of performance is a different factor and is also important to both areas).
3. "Skill in reading language arts also is determined by word-accuracy. In music this skill would not depend entirely upon note accuracy but also upon the musical insight with which the selection is performed." (Here again, the comparison is not completely correct. Accuracy in the identification of symbolic language is probably equally important in both areas and constitutes a similarity rather than a difference).
4. "Skill in comprehension in language reading is an accepted necessary attribute, and a skill which is difficult to improve. This is true because comprehension is dependent upon the children's innate ability and background. Skill in music reading must be developed on the basis of a development of musical insight." (In this instance, the thesis writer appears to be confusing reading comprehension with intelligence. Comprehension can certainly be improved and workbooks are designed for this specific purpose).
5. The widespread use of language in all other areas as opposed to the use of music in only musical activities.

Chapter Five, entitled "Bases for Musical Growth," was primarily a discussion of musical philosophy. In this chapter, a summary of the opinions and viewpoints of several leading music educators was combined with the thesis writer's own experience and training.

A final chapter contained a suggested growth sequence in which the writer presented ways in which the concepts of melody, rhythm, texture, form, and expression might be introduced at various grade levels. A section entitled "Conclusions" comprised the last part of this chapter. This section reiterated the similarities and differences in the language and music programs, a somewhat disconcerting feature since they differed in some respects from those already presented and discussed in Chapter Four.

Critique

This thesis contains some information which could be of interest to those who feel that the development of music literacy in children is basic to a school music program. Primarily, it is a gathering of material, most of which has previously been made available in various publications by other writers. The fact that the information has been assembled, summarized, and succinctly presented in a single place, constitutes one of the more useful features of the study.

The chapter dealing with teaching language reading (Chapter 2) is of special interest to the music educator who wishes to understand the basic principles involved, but who does not have the time to consult the various sources represented. In this connection, the writer of the thesis is to be recommended for the number and quality of the sources consulted for this chapter. They are generally recognized as among the most authoritative in their field and include names such as Russell, Betts, Durken, McKim, Sheldon, McKee, and several others.

The chapter on music reading is prefaced by a brief historical survey which is documented by the writings of several authorities and by information from a few of the older basic series. The last twenty years of this survey, however, was based on information extracted from the writings of a single author and provides the reader of this thesis with a rather limited view of the events of this period. In like manner, the overall viewpoint, as well as over half of the documentation of the remainder of the chapter are from the writings of the same single author. It would seem that one of the primary purposes in presenting a review of the literature of this type would be to assemble the opinions of several authorities (as was done in the case of language arts) rather than to simply reiterate the teachings of a single person.

Basically, the comparisons drawn between language reading and music reading, and the suggestions offered toward teaching music, appear to be valid. There are, however, statements throughout the thesis which are questionable. For example, the need for children to explore the sounds of sirens, dripping faucets, and squeaky doors, as a prerequisite to the establishment of the concepts of high-low, loud-soft, or even-uneven, as they apply to music. It would seem that these concepts could be established more easily and directly by singing and listening to music. Similarly, while most readers would not reject the comparison made between the vocabulary used in language reading and the need for a vocabulary of musical sounds for teaching music, the relevancy of including sirens, footsteps, or the humming of motors as a part of a musical vocabulary is problematical. It should also be noted that the thesis writer failed to mention the several verbal rhythm vocabularies which are in existence and have been used with much success by teachers in such cities as Rochester, Minnesota; Iowa City, Iowa; and Lufkin, Texas.

Tonal vocabularies were discussed and the sixty-four most frequently used major and minor tonal configurations, as published in the Petzold report, were included in the Appendix. There was, however, no discussion of the relative merits of tonal syllables as opposed to numbers for teaching tonal patterns.

Other questionable statements include that which appears in the third chapter in which the thesis writer states that children must be cognizant of the relationships of whole notes to half notes, quarter notes to eighth notes, etc. in order to analyze a rhythm pattern aurally. Likewise, the statement in Chapter Six that knowledge of note letter names is necessary to play keyboard and other instruments is not entirely accurate, or again in Chapter Six, the statement that children are able to aurally distinguish between 2 and 4 meter. Many music educators would doubt the consistency with which the latter could be done.

While the subject approached by this thesis is an important one, there is little information about it which cannot be found elsewhere and in a more complete form. This thesis contains no original research and only two of the sixty-seven references cited in the bibliography were of the nature of original music research. It does contain a survey of the current thinking of some of the leading educators in the areas of language and music. It compares techniques recommended by these authorities and presents a suggested growth sequence for music based partly on these comparisons and partly on the thesis writer's own teaching experience. It does not, however, go beyond this. The reader who expects to find objective proof of the validity of the suggestions offered will be disappointed. What is found is a synthesis of ideas which may serve to augment his own experience.

Munsell, Donald Thomas. A Comprehensive Survey of Solo Bassoon Literature Published After Ca. 1929. University of Iowa, Ph.D., 1969. Order number 69-13,170.
Reviewed by Lawrence J. Intravaia.

The writer states that there were three objectives to his study: (1) to present a survey of selected twentieth-century bassoon literature; (2) to analyze seven representative compositions for bassoon with piano or orchestral accompaniment (to provide help for the bassoonist in his study of those works for performance); and (3) to compile a bibliography of contemporary bassoon solo literature, which he hopes will aid the student and the teacher in their search for new repertoire.

Munsell traces the development of solo literature for the bassoon through the musical works of various major and minor composers in each musical epoch. He then describes compositions for solo bassoon with orchestral accompaniment after ca. 1929 by individual countries. The writer follows the same pattern in discussing sonatas for bassoon and piano as well as "other compositions" (not concerti or sonate) for solo bassoon with piano accompaniment.

Munsell concludes that, contrary to popular belief, the state of bassoon literature at the present time is not deplorable. He suggests that this may be the result of the failure of publishing houses to supply bassoon literature or to reprint bassoon music that was once available. The fact that works from the baroque and classical periods have appeared in publication in greater numbers testifies to the increase in musicological activities in recent years. The writer feels that the availability of many excellent compositions on all performance levels is due to renewed interest in the bassoon.

There are many more bassoonists at the public school level now than there were 10 or 20 years ago. The writer states, therefore, that the ultimate stimulus for the creation of new bassoon literature is the result of the efforts of those teachers and performers who encourage the playing of traditional works and those relatively few compositions not usually included in a course of study.

The seven twentieth-century composers Munsell selected for his analyses include Hindemith, Bozza, Jacob, Tansman, Etler, Mihalovici and Feld. The purpose of these analyses is to indicate to the reader the major subdivisions of each movement, their relation to one another, and to describe briefly the salient aspect of each of the above. To aid the bassoonist in preparing for a performance of each composition, the writer has included a great deal of information about the motivic, rhythmic and melodic relationships employed.

In addition to his analyses, Munsell has included a brief biographical sketch of each composer. Included in these sketches are comments relative to the composer's style, a discussion of the work analyzed, and reviews of the compositions, if available. Each analysis is organized according to large sections, with subsections and discussions. The works selected for this study are dealt with in order of year of composition or date of publication when the former is not known.

CRITIQUE

Munsell, according to his own words, has deliberately omitted "works of mere pedagogical interest or those which are of dubious value to the advanced bassoonist"; accordingly, he does not offer examples of works which illustrate either of these classifications.

Within the limits of the availability of literature for analysis, Munsell's bibliography might serve a wider range of use had he suggested one or all of these additional breakdowns: (1) grade the listing into various levels of performer ability; (2) list the bibliography according to usage, i.e., for training or for recital performance; and (3) provide a general description of the melodic, rhythmic, and technical characteristics evident in each composition. In this way, perhaps, the author's hope that his study "will assist the enterprising student and teacher to expand the horizons of their repertoire" may be realized.

The writer's omission of concerti by Wanhal (Vanhal), Rosetti, and Hummel is curious.

Munsell claims that there was not much solo literature written for the bassoon by nineteenth-century major composers. While this may be true, Almenrader and Jancourt of the twentieth century listed in Munsell's bibliography are not any better known than are the many nineteenth-century composers found in Langwill's bibliography.

As a bassoonist, this reviewer appreciates Munsell's efforts to include in his study a comprehensive list of compositions for solo bassoon that were written and published after 1929. After collecting and compiling lists of bassoon literature for the past 30 years, it is refreshing to note many new or unknown works instead of the usual compositions.

Neidlinger, Robert Joseph. A Study in Teaching Musical Style and Form to Elementary School Children. Washington University, Ed.D., 1967.
Reviewed by Marilyn P. Zimmerman

The purpose of Neidlinger's study was "to determine if and how fundamental concepts of the musical dimensions can be developed in students within the overall program of music education." His working hypothesis provides further clarification of the research project.

> Children at the elementary level can learn concepts of the musical dimensions and their relative values, preparatory to subsequent study of musical style and form arising from those dimensions, through a program of listening exercises which focuses attention upon the similarities and differences in the dimensions.

The first problem was to identify the musical dimensions to be used in the experimental phase of the study. Neidlinger consulted such writers in the fields of musical acoustics and the psychology of music as Helmholtz, Bartholomew, Revesz, Schoen, and Lundin. Through comparisons of both physical and psychological attributes of sound he arrived at the following dimensions to be explored in the study: time, pitch, loudness, timbre, and simultaneity.

Neidlinger also reviewed the literature of aesthetics, searching for ideas about musical style and form. Scholars consulted included Green, Berry, Langer, Parry, and Meyer. From this perusal Neidlinger concluded that his study would advocate learning about the relative rather than the absolute values of the dimensions. This would permit music to be perceived as a total experience.

After a look at the role of the listener, based exclusively on Schoen's three types of listeners, Neidlinger turned to educational psychology for a thorough review of learning theories that have influenced American educational procedures. These theories were categorized into associationist and cognitive and were examined for their ideas on perception, readiness, reinforcement, and the relationship between practice and retention. The associationist theories examined were those of Thorndike, Guthrie, and Skinner; the cognitive theories included gestalt psychology as propounded by Wertheimer, Koffka, and Kohler, Lewin's topological psychology, and Tolman's sign-gestalt-expectation theory. This individual examination was followed by a summary of all six theories under the headings of perception, readiness, etc., by which each had already been rigorously scrutinized. Only four principles of learning or "points" were drawn from this discussion.

It would seem that after the 114 pages devoted to this type of research, Neidlinger would be ready to approach his experiment. But not so. He was only now ready to launch into still more background material. This included the exploration of relationships between learning theory and the teaching of reading and mathematics and consideration of the influence of learning theory on the teaching of music. Experts in these subject matter fields were quoted, methods of teaching discussed, concept formation explored, and finally musical responses and growth gradients were discussed. Sixty-two pages later, nine implications for the study were drawn from this discussion.

Finally on page 181, Neidlinger turned to a review of the theories of Piaget and Ausubel from whom supporting ideas and implications for the procedure to be used in the proposed listening program were to be drawn. Of particular interest is the application to the designated musical dimensions of properties of mathematical groupings which Piaget used to describe cognitive structures at the concrete operational level.

These lengthy summaries of philosophical and psychological theories were presented in support of Neidlinger's hypothesis quoted at the beginning of this review. The next problem was to implement a listening program based upon the theories. Guided by the Skinnerian principle of translating learning into overt behavior, Neidlinger devised an ingenious means for externalizing the students' perceptions of short listening exercises. A system of pegs on a pegboard was constructed to represent the musical dimensions, both singly and in combination. "The final arrangement of the pegs, after the student's manipulation of them according to his perceptions, comprises a visual, concrete symbol of those inaccessible phenomena." Sticks of various lengths represented different values of _time_; the placement of those sticks into a vertical pegboard at various heights represented different _pitches_; graduated sizes of cylinders placed on the ends of the sticks represented different values of _loudness_; and beads of various colors attached to the newly formed pegs represented similar or different _timbres_. Vertical alignment of two or more pegs represented _simultaneity_ of two or more single sounds.

The listening exercises were planned as wholes, and attention was focused on the relative values of the perceptible musical dimensions, not on absolute values. Presentation of the exercises followed the synthesis-analysis-synthesis sequence; hence, each exercise was presented to the student three times. Reinforcement of the student's learning was accomplished by the teacher's acceptance or rejection of the visual pattern on the pegboard.

Twenty-four different exercises for each of the following dimensions, singly and in combination, were devised: time; pitch; time and pitch; loudness; time, pitch, and loudness; timbre; time, pitch, loudness, and timbre; simultaneity; time, pitch, loudness, timbre, and simultaneity - a total of 216 exercises. All exercises were tape-recorded.

The exercises were planned for twenty-minute music periods; eight exercises could be completed during each period. Thus, twenty-seven music periods would be required to complete all of the listening exercises. Ausubel's concept of advance organizers was used in the initial presentation of each sequence. Similarities and differences were treated in terms of visible and tangible phenomena.

Neidlinger evaluated the effectiveness of his listening program by means of the pretest, posttest technique. Before the students began the listening program, they were tested on their perceptions of the musical dimensions. After the listening program was completed, they were tested again. The test itself consisted of five tape-recorded examples and a set of questions, answerable in the negative or affirmative, about the relative values of the musical dimensions in each example. The questions were designed to test the student's perception and conceptualization of such relative values. Twenty minutes were required to administer the test and each example was played three times.

In a pilot study, Neidlinger tried his listening program with nursery school children at the preoperational stage of thought. Thirty-two children took the pretest, but only fifteen were available for the posttest. A comparison of the raw scores of the pre- and posttests showed that an actual decrease occurred in the majority of the cases. Hence, it was concluded that the program of listening exercises was not effective with this group. Neidlinger interpreted the results in terms of Piagetian concepts about preoperational thought.

The study proper was conducted with one group of third grade boys and another group of fourth grade girls. The groups were from a private school which featured an accelerated curriculum. An experimental and control group were formed at each grade level. The experimenter taught the experimental groups, the regular music teacher the control groups. The control groups used materials and procedures in the RCA Adventures in Music recordings.

Means, standard deviations, and t scores for the pre- and posttest scores were calculated. In addition the numbers of correct answers to all questions on the pretest were submitted to an analysis of variance in order to determine any significant variation among the test questions themselves. Over-all results indicated that the hypothesis of the study could not be accepted, "for it was not proved that children at the elementary level can learn concepts of the musical dimensions and their relative values through listening exercises which focus attention on those dimensions."

An extended bibliography and four appendices concluded the study. Appendix A was devoted to an annotated bibliography of the basal music series, elementary music education textbooks, and related articles; Appendix B presented all materials used in the experimental and control groups; Appendix C was devoted to the test materials; and Appendix D gave various raw scores.

COMMENTS

This fascinating study contains a wealth of material in the excellent summaries of the many learning theories. Also of interest is the chapter on relationships between certain learning theories and particular subject matter areas. Dr. Neidlinger is to be commended for the thoroughness and exhaustiveness with which he approached his problem.

Yet this very thorough review and summation of so many theories is perhaps an inherent weakness of the study. In a footnote on page 106, the author states that "the psychological orientation of this study is eclectic . . ." But just how eclectic is it necessary to be? By trying to show how his experimental procedures could be tied to so many theories, Neidlinger focused on background to the exclusion of a really good experimental design. It would have strengthened the study immensely to choose, for example, Ausubel and Piaget as the theoretical bases and then concentrate efforts on the experiment. This reviewer wonders how important it is for doctoral students to continue to recapitulate material on cognitive and associationist theories.

Those of us who have engaged in experimental research know the difficulties in working within and around school conditions in order to try to approximate a true experiment. However, the experiments comprising the main study would have been strengthened if children of the same age had been used in the pilot study. On page 295 Neidlinger states, ".... the null hypothesis that no real differences exist is accepted." This reviewer was unable to find a statement of this null hypothesis earlier in the dissertation.

The means of portraying visually the sound dimensions were logical and extremely imaginative. It is hoped that Neidlinger will continue research in this area in an attempt to refine these procedures.

Nicklett, Georgia Ellen. The Piano Major Program at Ithaca College, with Proposals for Future Development. Columbia University, 1966. Order number 67-2822.
Reviewed by James B. Lyke.

The purpose of Nicklett's study was to evaluate the instructional program for piano majors enrolled in the undergraduate music education curriculum at Ithaca College (New York). Future pianistic needs for school teachers were considered and these were used as a basis for judging the piano program. Proposals were recommended for an extensive revision of the curriculum. The "piano major" was defined as the student pursuing an undergraduate degree in music education and using the piano as his principal performing medium.

THE PROBLEM

Nicklett, an experienced teacher of piano to both majors and minors, supervised vocal cadet teachers during the preparation of her project. She noted certain weaknesses in the piano training of student teachers and these were supported by "(1) conversations with alumni now teaching in the public schools, (2) reports from seniors returning from practice teaching; (3) personal observations of junior and senior cadet teachers and conferences with their supervising teachers, (4) discussions with instructors in piano and music education and, (5) performance of piano majors in piano proficiency examinations prior to practice teaching assignments." (p. 2)

Nicklett sought to bring Ithaca College's conservatory-dominated approach into focus with more modern trends of piano education by reviewing pertinent literature, studying piano programs for music education majors in other colleges, closely examining the piano major program at Ithaca College, examining data returned from questionnaires and interviews, and, finally, relating the foregoing to the existing program.

FINDINGS

A review of the pertinent literature suggested the need for the piano major to be proficient in more than the two areas receiving great emphasis, namely, the study of technique and piano repertoire. Nicklett found that most music education majors worked in the field of vocal music upon graduation. This type of teaching necessitated the acquisition of other piano skills not available in the traditional half-hour private lesson. These additional skills included ensemble playing, accompanying and functional facility in "sight reading, harmonizing and transposing songs, playing from open scores and improvising." Both the NASM and MENC have made recommendations that all music education majors should receive piano training with stress placed upon these practical skills.

In addition to information related to performance and functional facility, Nicklett also reported what other colleges provided for the piano major. Well designed tables summarized course offerings such as History and Literature of Keyboard Instruments and Piano Pedagogy. From her questionnaire return, she found that piano minors generally received functional piano training whereas little of this training was available to the piano major.

The program at Ithaca College was analyzed and found to be lacking in many respects for the piano major. The syllabus for piano instruction reflected heavy emphasis on performance. The traditional half-hour lesson was inadequate in providing a complete education for the pianist. This was due to the pressure of recital requirements and weekly performances in repertoire classes.

In gathering data from Ithaca College alumni holding public school music positions, the three most mentioned needs included: (1) keyboard harmony and accompanying; (2) sight reading and (3) transposition. None of these skills was provided for in the respondents' undergraduate preparation for teaching. Another frequently mentioned lack was that of the ability to improvise. Seventy percent indicated that a course in piano pedagogy including techniques of group instruction would have significantly aided their school music teaching. Many former piano majors felt unprepared to teach their major instrument. Though the piano major had taken methods courses in vocal and/or instrumental music, none was offered in piano teaching. This course could have emphasized such relevant topics as keyboard experience and class piano as an adjunct to general music programs in the elementary and junior high schools.

Nicklett recommended changes for the piano major program at Ithaca College to include provisions for the following:

1. functional skills offered in a special class for piano majors; the proposed two-year class would provide sequentially arranged material and experiences in the areas of keyboard harmony, accompanying, transposition, improvisation, and sight reading.
2. a two year semester course in piano pedagogy consisting of lectures, observations of piano teaching and practice teaching experience; group methods and appropriate materials would receive emphasis.
3. expansion of the half-hour lesson to small group lessons consisting of two to four students; two students, for

example, could meet for an hour keeping the ratio of teaching time the same; group lessons would provide experiences in (a) increased familiarity with repertoire, (b) constantly playing before others and (c) observing solutions to others' problems thus increasing an awareness of physical differences in pianists.
4. additional instruction in accompanying and ensemble playing which could be handled in the advanced piano class outlined in the first recommendation.
5. the addition of a course in piano literature which would relate to the existing required music history courses.

COMMENTS

Nicklett has successfully challenged the traditional approach to college piano study which seems firmly entrenched in many schools throughout the country. It is a well known fact that many pianists, though their solo performing level is high, lack many pianistic skills so essential to school music teaching. The ability to harmonize, play by ear, sight read, accompany, transpose and improvise is indeed important and should be considered in music education curricula.

Well trained college class piano teachers have been successful in working with the piano minor for years, but functional skills for the major have been ignored. The writer's experience with a course in advanced class piano at the University of Illinois supports Nicklett's theories for the music education piano major. It is hoped that more classes of this type, as well as courses in piano pedagogy, can be made available in the near future.

Noice, Albert Harold. A Survey and Analysis of Teacher Training and Experience in Relation to the Stage Band Movement. Colorado State College, 1965. Order number 65-14,828. Reviewed by Newell H. Long.

This dissertation is of special interest to those responsible for curricula to train instrumental music teachers. Its subject is (1) timely - MENC having given an official status to jazz educators in Spring of 1968, (2) relevant to today's high schools where, as Noice reports, 48.3 percent of the Minnesota band directors reported thay had stage bands in 1965 though less than 5 percent had them five years earlier, and (3) urgent, because as Noice has discovered, practically nothing is being done by colleges to specifically prepare teachers for stage band instructing.

This status study was geographically limited to the state of Minnesota. His pilot study to perfect the questionnaire was completed in Colorado.

The 175 school names necessary for the study were selected from the total number of public schools (488) by applying a table of permutations. This technique showed that a 90 percent interval of confidence would be yielded from 174 subjects.

Responses were received from 81.7 percent of the 175 high school band directors randomly selected to receive questionnaires. Responses were received from thirty of the thirty-two school districts in Minnesota.

Noice did not submit his individual questionnaire items to statistical analysis. All responses were reported in percentages of total response.

Noice found stage bands were more prevalent in schools located in communities with 1,000 to 10,000 population than in schools in smaller or larger communities. When school enrollment was used as the criterion, he found the small schools were less apt to have stage bands.

Of the 51.7 percent who did not have stage bands, more than half mentioned lack of time as the principal reason for not having one. On the other hand the teaching loads of those directors who had stage bands were not significantly different from the loads of those who didn't although the band directors without stage bands tended to have more nonmusic teaching responsibilities such as teaching social studies, mathematics, library, and so forth.

While the length of time a director had been teaching had no consistent relation to whether or not he had a stage band, it was found that those who had been teaching two or three years were most apt to have stage bands (70 percent) whereas those who had been teaching for more than twenty years were least likely to have them (15 percent). In the largest group, those with four to ten years' experience, 49 percent had stage bands.

Table I shows the percentage of stage band directors and nonstage band directors who majored on the various instruments. "It is interesting to note that while the instruments traditionally associated with stage bands were slightly more prevalent with directors who have stage bands, no marked trend or significant difference of instruments played by the band directors was indicated by the data returned in the questionnaire." (p. 34) Many of the band directors played more than one instrument and often indicated their responses by families of instruments - woodwinds, brasses, and strings.

TABLE I

MUSICAL INSTRUMENTS PLAYED BY RESPONDENTS

Major Instrument(s)	Directors With Stage Bands		Directors Without Stage Bands		Total	
	No.	Percentage	No.	Percentage	No.	Percentage
Banjo	--	--	2	2.70	2	1.40
Baritone Horn	5	7.25	5	6.75	10	7.00
Bassoon	--	--	1	1.35	1	0.70
Brass	2	2.90	1	1.35	3	2.10
Clarinet	19	27.50	19	25.70	38	26.55
Flute	2	2.90	2	2.70	4	2.80
French Horn	5	7.25	--	--	5	3.50
Guitar	--	--	1	1.35	1	0.70
Organ	--	--	1	1.35	1	0.70
Percussion	4	5.80	8	10.80	12	8.40
Piano	6	8.70	4	5.40	10	7.00
Reeds	3	4.35	--	--	3	2.10
Saxophone	12	17.40	9	12.20	21	14.70
String Bass	1	1.45	2	2.70	3	2.10
Trombone	22	31.90	10	13.50	32	22.40
Trumpet (Cornet)	23	33.30	15	20.30	38	26.55
Tuba	2	2.90	5	6.75	7	4.90
Viola	--	--	1	1.35	1	0.70
Violin	--	--	3	4.10	3	2.10
Vocal	2	2.90	1	1.35	3	2.10
Unmarked	--	--	9	12.20	9	6.30

Fifty-one of the fifty-six who attended high schools having stage bands participated in them and 30 of them are now directing school stage bands.

While respondents were asked how many years experience they'd had in high school and in college concert bands, marching bands, orchestras, solo activity and small ensembles, this data was not analyzed with respect to present involvement with stage bands.

While 90 percent of the band directors had had college courses pertinent to concert band, 63 percent had had courses pertinent to marching band, 61 percent to orchestra and 66 percent to small ensemble instruction, only 2 percent had had courses dealing with stage band development and organization, only 3 percent courses pertinent to improvization, and only 1 percent courses dealing with problems of stage band notation, but 14 percent had had some study of the history of jazz and 10 percent some work in stage or dance band arranging.

Two thirds of all the directors responding thought their preparation in relation to stage band was weak.

Noice examined catalogs in Minnesota for evidence of courses dealing with stage bands and found only two references to such instruction - a course in dance band instrumentation at the University of Minnesota, Duluth branch, and announcement of a swing band to be organized in 1965 at Rochester Junior College.

Since the coverage of stage band problems had been so slight in their college courses, where, then, had these directors obtained instructional help in this field? Twenty-two (15 percent) reported they obtained help from other band directors and an equal number consulted professional or semiprofessional jazz musicians.

In response to a question as to what courses teacher training institutions should provide to better equip persons to teach stage bands, there were a few who doubted whether the curriculum should even attempt to deal with this area and a few who thought if a person doesn't "have it" (the feel for jazz and improvization) they're not going to learn it in a college class nor will they be able to impart it to their pupils. In contrast to those who despaired of helping the music teacher to prepare for stage band instruction other than through performance in stage bands, many recommended that courses be developed to cover: improvization, arranging for stage bands, history of jazz, stage band drumming, jazz styles, jazz phrasing, teaching techniques for stage bands, modern chords, chord progressions, jazz or swing notation, and laboratory experience in jazz playing.

Noice is convinced that there is need for a revision of the college music education curriculum to include applied stage band programs and surveys and analyses of musical and educational problems unique to stage bands, all taught by qualified, experienced instructors.

In addition to recommending that his study be replicated in other geographic areas, Noice wisely recommends: research on the musical and educational value of stage bands, research on the reasons for the rise of the stage band movement in public schools, research into the relationship of stage bands to the historical and sociological structure of American popular music, and research relating "the organizational techniques and development of the stage band as an educational facet of the entire instrumental education program."

Depending upon the importance our philosophy permits us to place upon the stage band as a part of music education, the service Noice has performed in documenting this nearly complete void in our teacher training programs deserves commendation.

Nolin, Wallace H. Patterns of Teacher-Student Interaction in Selected Junior High School General Music Classes. The Ohio State University, 1969. Order number 69-22,186.
Reviewed by Edward Rainbow.

In the past two decades educators doing research in teaching have been in general agreement that direct and systematic observation of the classroom may be an effective way to identify those classroom behaviors that are the most desirable. The most common area for investigation has been teacher-student verbal interaction. Numerous studies have been made on many grade levels and in many subject areas. Music, however, has not been one of the subject areas where teacher-student verbal interaction has been subjected to analysis by systematic observation.

The purpose of Dr. Nolin's study was to analyze the teacher-student verbal interactive behavior patterns found in junior high school general music classes. The following questions were investigated:

1. What patterns of teacher-student interaction can be observed in junior high general music classes?
    a. Do patterns of teachers rated as most effective differ from patterns of teachers rated least effective?
    b. Do patterns vary among teachers rated as most effective?
    c. Do patterns vary among teachers rated as least effective?
    d. Do patterns of individual teachers vary from one class section to the rest?
2. Are there differences between the patterns of teacher-student interactions in junior high school general music classrooms and patterns of teacher-student interactions in classrooms other than music?

METHOD OF INVESTIGATION

The teachers participating in the study were selected from the general music staff of a metropolitan school system in the state of Ohio. The system employed twenty general music teachers and nine of these teachers were active in the study. Dr. Nolin presented logical reasons for not involving all of the staff.

Three music supervisors, using a form developed by Nolin, rated the effectiveness of each teacher. On the basis of these ratings the nine teachers were divided into the following groups: the high group, consisting of the three teachers judged most effective; the low group, consisting of the three teachers judged least effective and three teachers in the average or normally effective group.

All teachers participating in the study permitted the researcher to visit the music class unannounced and to tape record the class period. The tape recorder was concealed from the students and since the researcher did not remain in the room the students were unaware that the class activity was being recorded. Dr. Nolin tape-recorded a minimum of ten different class sessions of each teacher over a five month period.

Dr. Nolin subjected the recorded classroom sessions to analysis using the "Hough Observation System for the Analysis of Classroom Observation." Although the study was primarily interested in verbal behavior, the Hough Scale was selected because it accounted for non-verbal behavior as well as verbal. The Hough Scale represents a modification of the "Flanders Interaction Analysis System."

RESULTS AND CONCLUSION OF THE STUDY

Dr. Nolin used appropriate non-parametric statistics to analyze the data obtained from the Interaction Analysis. In general Nolin found the music teachers in this sample were more autocratic than democratic in their behavior patterns.

Very few statistically significant differences were noted in the behavior patterns of teachers rated most effective and teachers rated least effective. In general low rated teachers spent more time lecturing than did the high rated teachers.

High rated teachers tended to be more transitional in their behavior than the low rated teachers who tended to remain more often within a single type of behavior.

Student talk was utilized less by all the teachers in this study than in any other study reviewed by Nolin.

In general, teachers did not vary their behavior patterns significantly from class to class during the five month period. This finding was consistent with the findings of Withall, who investigated teacher behavior in other academic subject areas.

CRITIQUE

The area of Dr. Nolin's study, teacher-student verbal interactive behavior patterns, will probably attract increasing interest among music educators during the next few years. Research attention will also be focused on non-verbal interaction behavior in the music classroom. This reviewer believes that researchers in music education would be wise to study this dissertation. It is carefully designed to efficiently investigate the research problem and represents a good example of careful research procedures and research reporting.

Dr. Nolin has determined and reported the reliabilities of all data gathering devices used in the study. The reliability of the supervisors' ratings was also determined and reported. The determination of reliabilities for data gathering devices is often overlooked by otherwise careful researchers and is crucial to the reader if he is to properly evaluate the results and conclusions of a research study.

Dr. Nolin has also included in the appendix all statistical data gathered in the study. This is an important facet of research reporting that is too often neglected. The inclusion of this data permits others to re-analyze the data using a different statistical design and the data may also be of value to future researchers who may wish to replicate the study.

This study is small in scope, but it does represent a first step in the investigation of teacher-student behavior patterns in the music classroom. A multiple replication of this study in various educational situations would be advisable and would contribute to the field of music education. Dr. Nolin's careful study could serve as the model for future investigations.

Pallett, Earl Marshall. Music Communication Research: The Connotative Dimensions of Music Meaning. Michigan State University, Ph.D., 1967. Order number 67-10,548.
Reviewed by James B. Fitzpatrick.

INTRODUCTION

To upgrade the quality of musical instruction offered in college and secondary school classrooms, Dr. Pallett sought to identify what kind of verbal information about music is most significant to students. He attempted to describe both the connotative meaning of music, as well as to identify specific music pattern-connotative meaning associations in terms of bipolar adjective scales. While limited to an investigation of the melodic characteristics of music, the goal of the study was "to suggest a set of independent dimensions which will be relevant to most music and most people most of the time."

METHOD

Utilizing Osgood's semantic differential technique, the investigator developed a scale of twenty-six adjective pairs in the following six dimensions:

1. Evaluation (good-bad, etc.)
2. Mood (happy-sad, etc.)
3. Potency (strong-weak, etc.)
4. Activity (aspiring-resolving, etc.)
5. Tautness (stiff-elastic, etc.)
6. Stability (deliberate-impulsive, etc.)

Eighteen short melodic patterns, ranging from a single-note item to four measures from the main theme of the opening movement of Tchaikovsky's Sixth Symphony, were performed on either the clarinet, violin, or piano and were recorded on magnetic tape. Three musical examples were assigned to each of the six dimensions described above. A questionnaire consisting of a page of instructions followed by eighteen pages of response sheets - one for each of the musical examples - was developed. A five-point bipolar scale was applied to each of the twenty-six pairs of adjectives found on the response sheets. Items were ordered empirically to range from "hard" (difficult) adjectives to "easier" adjectives. In an attempt to avoid any influence on the results caused by item order, three separate orders of presentation were used. Three sections of students enrolled in an elementary music course at Michigan State University were employed as subjects. The seventy-nine members of this sample were almost all juniors, female, and ranged in age from nineteen to twenty-six. The experiment required approximately forty minutes to administer.

Dr. Pallett described the major design as follows:

> A preliminary analysis was made of the influence of the particular pattern context used in this study on the internal correlational structure by constructing three different pattern orders. Since this context could possibly effect (sic) both the central tendency or between scale correlations, both analysis of variance and homogeneity of correlation significance tests were used. Twenty-six one-way anovas were computed, with three pattern orders as treatments and the 26 different scales as dependent variables. If any scale was significant further anovas would be used to find out which pattern levels were the most influential . . . Further, in order to emphasize the simple (pure) structure of the data, a orthogonal varimax rotation was used, along with the Kiel-Wrigley criterion for limiting the number of factors. (pp. 79-80)

A factor analysis was generated for each of the six dimensions, as well as one for the combined level.

The researcher hypothesized that the following would occur to the six dimensions used in the experiment:

1. Evaluation and Stability will collapse.
2. Activity and Tautness will collapse.
3. Mood will be interrelated more with Activity than with Potency.
4. Activity and Potency will collapse and a dynamic dimension will appear.

The following experimental hypotheses were put forth concerning the meanings that the sample population might attach to the adjective scales:

1. A significantly greater number of people will judge the scale relevant than will judge the scale irrelevant. A single-tail test at the .01 level was used.
2. A significantly greater number of subjects will judge the pattern in one direction or the other. A two-tail test at the .05 level of significance was employed in this hypothesis.
3. Certain music patterns can be identified which correlate most and least in terms of all scales on each of the connotative dimensions.

RESULTS OF THE STUDY

Four relatively independent dimensions appeared and replaced the six dimensions defined earlier in the research. The emerging dimensions were the following:

1. Aesthetic-Evaluation
2. Mood-Emotion
3. Stability-Tautness
4. Dynamism

A fifth dimension, called "Factor V" by Dr. Pallett, was also present. This factor was associated most closely with slow, Romantic, tonal patterns; however, it was not clearly identified in this research.

Six of the twenty-six pairs of adjective scales proved significant at the .05 level. The first four of these six scales were most closely associated with the Aesthetic-Evaluation dimension: (1) floating-dragging, (2) pleasant-unpleasant, (3) beautiful-ugly, and (4) rugged-delicate. The two remaining significant pairs, gay-pensive and happy-sad, were associated with the Mood-Emotion dimension.

Analysis of the musical excerpts revealed that positive Evaluation was associated most intensely with familiar, Romantic, and tonal patterns, while negative Evaluation was most strongly connected with modern, atonal, or redundant melodies. Positive Mood was most strongly associated with relatively fast speed, the clarinet, and staccato articulation. Negative Mood was most often associated with slow tempo and legato articulation. Positive Stability related to very redundant patterns, while positive Tautness included atonal patterns. Finally, positive Dynamism related to staccato articulation and fast speeds. Negative Dynamism could not be characterized by any particular qualities.

The analysis of variance of the eighteen musical patterns presented in three different orderings revealed that three patterns were significant in all three orderings. A fourth pattern was significant in two of the orderings, while another was significant in but a single ordering. The patterns which achieved significance in all three orderings were: (1) a single pitch, (2) a two-pitch, eighth-halfnote pattern, and (3) a six-pitch, atonal pattern in 6/8 meter. The two remaining significant patterns were both phrase-length tonal melodies.

CRITIQUE

There are serious weaknesses to be found in this study. Most noteworthy are those pertaining to the basic design of the experiment, the qualities of the measuring instrument, and the presentation of the data. While all studies contain data which may be considered arbitrary by other experts in the area of inquiry, this research incorporates questionable properties serious enough to invalidate its worth to any serious researcher.

Conclusions drawn from the one-shot administration of a questionnaire designed to probe the attitude of an experimental sample are, at best, of arbitrary value. The real subject of this research is not communication, per se; it is attitude, or, perhaps, affective response. There is little difference to be found between the goals of this study and those of Heinlein or Sherman (to cite but two examples) in the late 1920's. One of the great problems encountered in dealing with this kind of inquiry is achieving a consistency of response from the experimental population. There is little doubt that people change their attitudes toward a given subject from day to day, or even from moment to moment. An experimental design which incorporates this quality of human behavior would seem to be appropriate for research projects attempting to achieve the aims of Dr. Pallett's study. The reader knows only the performance of the sample during a single experience which occurred in June, 1967. One wonders if these same people would have reacted differently to the same stimuli in August, 1967.

A most elusive word in this study is the term "reliability." It never seems to appear in any discussion of the experimenter-designed questionnaire employed in this project. While the investigator did see fit to dry-run his administrative techniques on a small group of music majors (N=11), he reports only that the procedure encountered no snags in this trial run. Unfortunately, he did not investigate the reliability of the questionnaire.

Before any future researcher might use this study in his own work, he must be able to find information in it. Perhaps this is the most formidable obstacle encountered in dealing with this dissertation. It is devilishly difficult to find information in this report. The content is structured into a seven chapter scheme, and there seems to be no apparent consistency of presentation within each chapter. The reader will find content related to previous research and related studies - normally Chapter II content - in all seven chapters. Actual procedures and results of Pallett's experiment are found in at least six of the seven chapters.

Besides encountering difficulty in finding information in the study, the reader will brush against several other obstacles in his quest for truth. Most exasperating to this reviewer is the preponderance of jargon in the study. In most cases, plain English would have done the job.

One other negative quality of this thesis cannot go unmentioned: not a single musical example is presented on a staff which was drawn with the aid of a ruler. While one might excuse the lack of clear tempo markings or the omission of an occasional meter signature in the musical examples, there is no excuse for freehand staves.

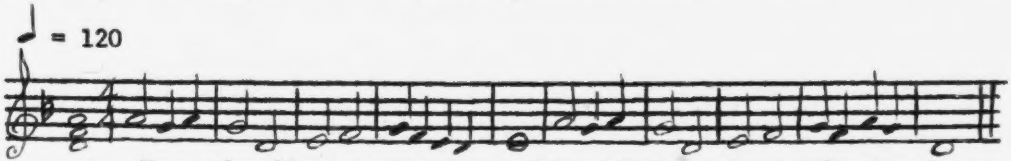
Readers who might use this study in their work are urged to do so with extreme caution.

Peterson, Agda Viola. A Study of Developmental Listening Factors in Children's Ability to Understand Melody. University of Rochester Eastman School of Music, 1965. Order number 66-2362.
Reviewed by Marvin Greenberg

The study aimed at contributing to an understanding of how children perceive tonal expression. The listening proficiency of school children as they comprehend melody as an expressive art form was invistigated. Specifically, Peterson was interested in: (1) discovering how musical notation helps students perceive various melodic components of music; (2) analyzing data obtained by means of an achievement test designed to measure factors operative in listening to music; and (3) noting instances of melodic concept formation as measured by the evaluative device. The experimental hypothesis was that better achievement in listening to a melody was possible when notation is used than when it is not used.

Procedures

The author constructed a Melodic Recognition Test which aimed at measuring a student's awareness of melodic content in a musical work. The test was divided into nine subtests, consisting of 50 melodic examples and 176 items. The test measured understanding of such factors as melodic direction, tonality and tonal center, melodic phrase and cadence, intervals, contour, and antecedent and consequent phrases. An example of a typical question from the test is:



a. Name the first cadence complete if it ends on the tonal center and feels finished. Name it incomplete if it ends on another tone and feels unfinished.
b. Name the first phrase a question phrase if it ends with an incomplete cadence. Name it an answer phrase if it ends with a complete cadence.
c. Name the second cadence complete or incomplete.
d. Name the second phrase question or answer.

(ANSWER SHEET)

(41)

a. complete, incomplete
b. question, answer
c. complete, incomplete
d. question, answer

The study utilized a posttest only control group design since the test measured accumulated experience in a single session without using any pretesting or specific preparatory training. Over eleven-hundred fourth through seventh grade students from eleven Rhode Island schools served as subjects. The schools participating in the study represented a wide range of encironmental background, and included schools classified as urban, rural-mobile, suburban, small town, and varied. The students were randomly placed in a control group (listening without notation) and an experimental group (listening with notation). Test administration was done in a 58-minute session by tape recording. Each melodic example was played twice, and three or four questions were then asked for each example. Students were told to respond to questions by underlining one of two possible answers. Responses were regarded as dependent upon the student's melodic concept formation derived from past experiences in school music classes.

The test was subjected to intensive study through several pilot trials. Internal consistency of the test items was checked by means of item analysis, and indices of difficulty and discrimination were obtained for every test item. Reliability coefficients of two different sets of the test were determined by use of the Kuder-Richardson formula No. 21, and ranged from .87 to .94. Content validity was achieved by constructing the test in accordance with recommendations by music educators as to the various aspects comprising melody and melodic understanding, and the concepts relevant to the listening process. Concurrent validity was assured in the correlation of the test scores with scores made by the subjects on the Seashore Measure of Tonal Memory and the Drake Musical Memory Test.

Findings

An examination of the mean scores and the results of an analysis of variance at teah grade level indicated that seventh grade students who used notation when taking the test scored significantly higher (.001 level) in listening achievement than similar students who did not have the benefit of notation. No significant difference was found for grades four, five, and six.

A trend analysis by subtest showed that a consistently high achievement was found associated with understandings of cadence, tonal center, and a feeling of conclusion in tonal patterns and single phrases. On the other hand, limited comprehension of range and contour, antecedent and consequent phrase comparison, and recognition of expressive structural qualities in two or more phrases was indicated, regardless of grade level. Interesting enough, a narrow range of achievement between the fourth through seventh grades was found, with a negligible difference in socres between the sixth and seventh grades.

Conclusions

Some of the major conclusions of the study were:

1. The use of musical notation is an asset in music listening if its utilization is sufficiently established through instructional means.

2. Students who have acquired sufficient maturation and experience can benefit by the use of notation in listening. This instruction should begin in the fourth or fifth grade.

3. Sixth grade pupils may be capable of auditory-visual discrimination with instruction, while junior-high-school-age pupils can definitely benefit by using notation when listening to music.

4. Melodic concepts of range and contour, antecedent and consequent phrase comparison, and recognition of expressive structural qualities in two or more phrases are being overlooked in school music instruction. There are breaks in the learning experience provided for melodic concept formation.

5. Qualitative observations can be used by the teacher to evaluate the student's progress in listening to music, and instruction in recognizing tonal center, range, melodic direction, contour, and phrase is necessary for listening achievement.

Comments

The Peterson dissertation is a well-documented, significant, and timely study which deals with a subject of great importance to music education--melodic concepts and how they are measured. The study's main contribution is its discussions on melody and melodic concept formation, and its inclusion of the complete evaluative device to test concept formation. The Appendix A of the study, containing the Melodic Recognition Test and test directions, has a wealth of innovative ideas for evaluation in music education, and should be studied by all music educators who are faced with evaluating the listening process in their classrooms. The experimental hypothesis, dealing with the use of notation as an aid to listening perception, actually distracts from what the reviewer feels is the central concern in the project--the evaluation of melodic concept formation in fourth through seventh graders.

Statistical procedures and data are carefully explained in the study and are appropriate to the design used. Several graphs, tables, and excerpts from the test are judiciously used as necessary, making the description of the study and its procedures quite clear. A researcher would have no trouble following the methods used and replicating the study.

The findings relating to the use of music symbols as an aid in musical perception are somewhat similar to the results reported by Oberdin,[1] who concluded that ". . . ten- and eleven-year-old children have not matured enough for the notated examples to be of any significant aid in recognizing themes." The procedures used in Oberdin's study point out a possible weakness in the design of the Peterson investigation. Detailed instruction in listening with notated examples was given to the subjects in the Oberdin study before testing. Peterson, on the other hand, assumes that auditory-visual discrimination has been part of an ongoing program of musical listening instruction in the elementary school. This may be an invalid assumption to make, especially in schools where music is taught by nonmusic specialists. No evidence is provided to attest to the fact that students have had instruction with notation when listening to music. The Melodic Recognition Test in the Peterson study may have measured performance not necessarily based upon prior experience with notated examples of what is aurally perceived. A much stronger design would have been to pretest both control and experimental groups, then give the experimental group instruction in listening using notated examples, and finally test for significant differences in achievement between the two groups. In this way, the effect of instruction on achievement would be tested. The conclusion reached in the Peterson study--that listening achievement is better with the use of notation than without it for the seventh grade, but not for grades four through six--must be understood in the light of the procedures used in the experiment. The fact that seventh grade music is almost always taught by a music specialist may account for differences in socres between the seventh graders and the fourth through sixth graders. Fourth graders who have daily music instruction with a trained music teacher may possibly benefit by the use of notation to the same extent as seventh graders.

The reviewer was somewhat surprised to find several instances where the investigator seems to ignore the importance of developing musical concepts in the early elementary grades.* For example, on page two Dr. Peterson writes: "The Goals the teacher sets up for the child beginning at seven or eight years of age should provide for the development of his ability to think tonally and to learn to perceive the expressive qualities of music." Similarly, in the Abstract the investigator writes that: ". . . teachers should be persuaded to build an understanding of melodic expression through auditory-visual discrimination, beginning with fourth and fifth grade pupils."* And on page seven, she states that the formative years of establishing musical concepts and perceptive ability coordinated with melodic listening are "grade levels four and up." The reviewer strongly disagrees with these statements. Goals, materials, and methods for developing musical perception and concepts should be outlined for all levels of instruction, and procedures and evaluative devices for testing concept formation can take place at even the kindergarten or first grade level. To delay this instruction until grade three or later would seriously hamper the musical growth of young children.

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[1] Helen E. Oberdin, "The Use of Notated Examples in Fifth-Grade Music Appreciation Classes," Journal of Research in Music Education, XV (Winter 1967), 300-304.

*Auditory development is important from pre-school activity and on in the school music program. Teachers are urged to exercise child responsiveness and awareness from the earliest years. In this study I have explored listening ability acquired up to the 4th, 5th, 6th, or 7th grades. AVP

The finding that achievement in recognizing cadence, tonal center, and conclusions in configurations and single phrases was much higher than understanding of range, contour, and antecedent and consequent phrase is interesting. It may be that students develop a feeling for cadence, tonal center, and finality without really being able to verbalize these feelings. Certainly, even young children develop a sense of cadence and tonality easily, while such notions as range and contour require intellectualization before these ideas are grasped. The reviewer, in trying out certain sections of the Melodic Recognition Test with second and third graders, noticed that the sections dealing with cadence and tonality were challenging to the students and elicited a high degree of correct responses. The sections on range and contour proved to be difficult for the students. The influence of constant exposure to popular music on children's feeling for tonality and cadence in music of all types should be recognized.

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*In the emphasis on the perceptual aspect of listening, explained under the scope of the study in the imposed psychological and educational limits (see pages 11 and 21), the investigator based the best time for concept formation, such as underlies a child's ability to grasp melodic phenomena, as beginning at seven or eight years of age. This theory was based on the findings of Piaget and Vinacke. Instruction in music as well as in other subject areas needs to be connected with studies being made in learning behavior. AVP

Several minor faults in the study should be mentioned, although they do not detract from the overall worth of the project report. The 176-item test may be too long, especially for fourth and fifth graders to take at one sitting. The vocabulary and questions for a few of the items in the test seem quite difficult and wordy. The use of harmonic accompaniment for several of the examples might be suggested, especially in the sections on cadence and tonality. Some orchestral excerpts might be included in the test. A fuller description of the meaning of "concept" and "concept formation" might have clarified some of the author's discussion on theories of audition, education, and music relevant to the study. Some mention should have been made of Smith's study on the use of notated examples in learning to aurally recognize musical themes,[1] since this study bears directly upon the experimental hypothesis formulated by the writer. Finally, Chapter IV --"The Meaning of the Results as Analyzed for Music Instruction in the Schools"--seems to be sparse in practical application. The investigator's suggestions as to how the understandings tested in her evaluative device could be specifically developed with children would have been most pertinent and helpful. Suggested methods of using notation when teaching listening skills would have been most welcome. It is hoped that the author will work on these important aspects of musical instruction, with special attention give to techniques of developing melodic concept formation in children and ways to evaluate the extent to which this formation has occurred.

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[1] Edgar H. Smith, "The Value of Notated Examples in Learning to Recognize Musical Themes Aurally," Journal of Research in Music Education, I (Fall 1953), 97-104.

Peterson, Harold W. Problem Areas in Music Education. Yale
University, Ph.D., 1956. Order number 69-16,297
Reviewed by Richard T. Dasher.

In an era when curricular revision is an annual ritual, the pertinence of a study revealing functional weaknesses in teacher training courses is obvious. Since teacher training institutions can scarcely keep abreast of current problems, frequent surveys such as this one may provide valuable guidelines to such institutions.

PURPOSE

The purpose of this investigation was to provide information regarding the professional problems which are recognized by public-school music teachers. Peterson set out to "identify, through an analysis of the current practice and opinions of recommended teachers, some of the major problem areas which public school music teachers face . . ." It was his intention that his findings should be useful in evaluating the curricular offerings of teacher training institutions.

PROCEDURE

Peterson began his investigation by producing a questionnaire which solicited two types of information: (a) data regarding the respondent's training and experience, school size, community, and his school's music department; and (b) opinions regarding the problems of teaching music, the value of his college training, and the goals of music teaching. The responses to the questions were structured; respondents were typically asked to state which of four phrases, marked "A" "B" "C" and "D" best described their situation. However, less structured responses were solicited where possible.

After pretesting and revising the questionnaire, Peterson secured a list of colleges which offered a music major and which were approved by either the American Association of Colleges for Teacher Education (AACTE) or the National Association of Schools of Music (NASM). From these departments, and from other sources, he secured a list of graduates who were considered to be doing outstanding work in the field of public school music. The eventual result was 374 returned questionnaires from forty-two states which provided the data for this study. These data were transferred to McBee Keysort cards, tabulated, and subjected to statistical analysis.

In addition to the statistically treated information, Peterson also reported interviews with ten of his respondents who were located in the northeastern United States. A summary interpretation of interview data was reported separately from the statistically treated information.

FINDINGS AND CONCLUSIONS

Peterson identified three classes of problems, stemming from: (a) teacher-student relationships (i.e., music reading, testing, changing voices); (b) relationships with other adults (i.e., scheduling, public relations); and (c) the teacher himself (i.e., objectives of performing groups, selection of materials). With regard to these problems, he concluded: (a) the teachers found that their college training had not prepared them to solve the problems they actually met in student-teacher relationships; (b) teachers felt the need of more practical training in administrative techniques and personal relations; and (c) the teachers themselves needed to re-examine their teaching objectives and methods of selecting materials.

Other findings include the following: (a) although most teachers favored offering courses in music history, appreciation, and theory in high school, less than half reported that such courses were actually offered in their schools; (b) selection of materials for small ensembles, soloists, and changing voices was a significant problem to many teachers; (c) scheduling was a significant problem to most respondents; (d) most respondents did not feel that they were burdened by unreasonable "busy work"; and (e) most teachers learned about new materials from mailed advertisements, their colleagues, and local music store stocks; magazine advertising, methods courses, and recordings were of little value in selecting new music.

CRITIQUE

The central premise of Peterson's research is the presumption that it investigates problems encountered by "outstanding" teachers. The question of what makes an outstanding teacher is a most vexing one. Peterson candidly avoided any attempt to define the term "outstanding," and accepted whatever construction the AACTE- and NASM- approved music departments placed on it. Perhaps this is as valid a criterion as can be achieved in a national sampling; still, one might wish for some corroborating evidence of these teachers' outstanding qualities. Since only 374 respondents represented forty-two states (an average of less than nine respondents per state), the obtained results could scarcely be considered statistically representative. A more exhaustive regional sampling might have allowed more precise definition of teacher quality.

One of the important findings reported by Peterson was that teachers were strongly in favor of offering courses in music history, appreciation, and theory at the high school level, and generally felt qualified to teach them, yet less than half reported that their schools offered history or appreciation courses, and only one-third offered theory courses. Peterson notes, "if the school is to fulfill its general education obligations, it should offer exploratory courses . . . to as many students as feasible. If it is to fulfill its obligations with regard to specialized education, it should attempt to discover and develop the abilities of those students who show special talent." His case is weakened by the fact that nowhere does he indicate how many of the respondents teach in secondary schools. If a substantial number of these respondents teach in elementary schools, the figures cited above could indicate widespread occurrence of these courses in the schools concerned.

Peterson's diligent labors at accumulating and evaluating data were unfortunately not matched by equal diligence in the reporting thereof. Typographical and grammatical errors appear with embarrassing frequency; sometimes the sense of a sentence is entirely reversed ("The music department in the central school district had grown, under Mr. J's leadership, from one teacher and a $25.00 budget in January 1956 to six full-time teachers and a $5,000.00 budget for the year 1954-55.") His charts are marked off in three-year tenure intervals marked 2, 5, 8, and so on; yet his text typically refers to the "7 - 9 year tenure class." The word "data" is treated as both singular and plural; "graduate school" is used for "grade school"; elsewhere, "problems of scheduling music classes and performing groups is (sic) in some ways distinct," and so on. One wonders how carefully Peterson's committee read his paper.

A major concern to the reader should be the construction of the questionnaire upon which the study is based. There is an apparent lack of focus, scant preliminary work and apparently no attempt to establish the validity of the instrument.

Peterson's research was accomplished during 1955-56. The contemporary relevance of the problems he discovered is a testimonial to the durability of these problems for music teachers. He suggested several areas of investigation which he felt needed further research. Heading his list was the problem of identifying the "outstanding" teacher. The point is well taken; if we can ever decide what we mean by "outstanding," and how one gets to be that way, music education will take a huge jump forward. Until then, there will be a constant need for studies such as this one, detailing the practical problems encountered by teachers in the field.

Porter, Harold Brook. An Integrated Course in Music Literature, Theory, and Ensemble Performance for Talented High School Students. University of Arizona, 1964. Order number 64-10,462. Reviewed by Charles R. Hoffer.

Porter's project can be easily described. After presenting a rationale for musical learnings in addition to performance by high school music groups, he develops a sample program of study to rectify the situation in choral music. He presents eight works - two each from the Middle Ages, Renaissance, Baroque, and Classical periods - and teaching suggestions to educate the students in musical style and related learnings.

Porter's proposal calls for a new course that he terms "Laboratory in Musicianship." The class size would be small, and the students carefully selected. Reports, examinations, and readings from such standard works as Grout's A History of Western Music are a part of the course. Learnings in theory, literature, and history are developed around the musical examples selected. A demonstration-recital is an essential part of the suggested program, so performance is a significant aspect of it.

No attempt was made to test or evaluate Porter's suggested program. No study or research was involved, save in the area of music history and literature. Therefore, it cannot be evaluated as research, unless one uses a loose, broad definition of the word "research." Thus, this review will largely consist of the personal reactions of this reviewer to the ideas Porter presents.

There are some commendable aspects to Porter's suggestions:

1. They call for an integrated program of performance, theory, and literature. High school students generally have time for only one music course in their schedules, and seldom are they as musically sophisticated as college music majors. Learnings should be put together as much as possible into a single program of study for these students. Not only does integration seem necessary; it is also logical. The main asset of the performing class is that it can perform and study; it can have the best of both worlds.
2. The allocation of time for teaching the material is flexible. A routine of five minutes each day or every Thursday is not conducive to the integration of learnings.
3. The learnings to be developed around the study of a particular work are precisely spelled out; there are clear statements as to what the students are to learn.
4. Specific homework projects are given the students. Unfortunately, some of the suggestions sound like topics for term

papers for a musicology seminar. Example: "Make a study of the Anglican (Episcopal) chant, comparing settings of identical texts in Gregorian (Latin) and Anglican (English) chant." (page 102)

5. Attention is devoted to performance practices in various styles. Learning to sing correctly in Renaissance and other styles is an important outcome in Porter's project. Although such suggestions must be developed in the face of conflicting views by various musicologists, performance practices are an important aspect of learning in music.

Porter's suggestions also have some weaknesses:

1. The course is planned for select students only. Learning in addition to performance is valuable for all students enrolled in music courses. A majority of the students should not be left out.
2. The provisions are weak for a student taking the "Laboratory in Musicianship" for a second year. It is suggested that such a student be given "suitable experiences in the form of special assignments" (page 50). The problem of combining students with varying levels of experience is one of the most perplexing in developing a course of study for a performing group. Most curricular areas have a first and a second year course, or different courses. In music one often takes the same course for all four years of high school.
3. The students in Porter's project never study any instrumental music, which is at least half of the body of significant music literature. True, they would not be able to perform a Haydn symphony, but they could learn about its sonata form and other salient characteristics.
4. For reasons that appear to be unsubstantial, Porter closes his course with the Classical period. The inclusion of twentieth-century music would have made the course more valuable for most teachers and students.

Porter's project deals with a significant need in music education. For the most part it is well thought out, both educationally and musically. It is unfortunate that it was not tested in even an exploratory way in the schools.

Price, Edwin Chappell. Human Pursuits Approach to the Basic Humanities. University of Florida, Ed.D., 1962. Order number 68-12, 964.

Reviewed by Leon C. Karel.

A basic problem in any course which attempts to interrelate the arts is that of finding a suitable form for such interrelationships. Some have grouped them about their common elements, forms, and principles; others have related them through historical eras. The author of this thesis, Edwin Price, chooses yet another way - the study of "human pursuits."

Stressing man's need to find meaning for his life and to develop close relationships to the lives of others, both past and present, Price cites three human pursuits which, he says, are "sufficiently universal to be called basic." They are "pursuit of permanence, pursuit of justice, and pursuit of pleasure." He spends the major portion of his thesis (175 pages out of 200) in simply presenting examples and lists of art, literature, and music under these three "pursuits," but more of this later. It is in the first two-dozen pages that one looks for guidelines in this difficult matter of teaching young people (the study is specifically aimed at college sophomore work in general education) about themselves through the arts.

Price reasons that the visual arts can initiate the student "into a whole world of reflective thought" and that such thoughts "stimulated through the visual arts may find their complement in literature. Literature raises thought to a judgment level. It lays out ideas before the reader clearly delineated and explained . . . If one is to make value judgments he must discover these thoughts in clear relief." As for the third art, "music," says Price, "conforming to the laws of harmony, melody, and rhythm, is the most disciplined of the arts." (One wonders what music the writer is talking about!) Even so, music often is free to express the "pursuits of the human spirit."

At this point, Price betrays a woeful lack of knowledge about his third art by citing Lameck's (sic) "Song of Revenge" and Homer's (sic) "Hymn to the Earth," both of which are poetry rather than music, and then talking about "a great dramatic opera like Semiramide's 'William Tell'." In the same paragraph, he mentions "Jagerlied's 'The Hunter's Song'." The rest of the thesis maintains this tone, unfortunately, attributing the opera "Shanewis" to, of all people, Leos Janacek, and coming up with a new title for Berlioz' masterpiece, namely, "La Damnation of De Faust." Throughout the thesis, there is actually no music presented! Many verses to songs are reproduced, perhaps in the belief that these hold the musical meanings of the songs, but, of course, they are only more literature.

How does Price expect his reader to make use of the 175 pages of art, literature, and "music" quotations? He mentions that individual initiative on the part of students should be stimulated and the integrity of each student honored. "Freedom to explore and to make logical deductions from discoveries is essential." All of this structure "should be used to initiate thought." "Lectures, group discussion, and individual conferences should be firmly scheduled from the beginning." One cannot quarrel with anything here, but the question remains. "The library," says Price, "is the real center of activity," but again no discussion of how this is to be accomplished. Will the art and music areas be equally represented in that library, and if so, how?

This reviewer, after teaching courses in the interrelationship of the arts for a number of years, has learned that the several goals set down in this thesis are not easily reached, nor evaluated even if they are reached. Furthermore, the problem is not so much one of finding examples from art, literature, and music - these abound. The problem is one of strategy: the setting up of learning situations in which students can and will develop reflective thought processes, value judgments, and so on. One wishes Price would face up to such questions as these:

1) How is a student to be persuaded to adopt a value not presently his own?

2) How can an instructor tell whether the student has done so?

3) What stages are involved in reflective thinking, and how do the art-literature-music examples help the student reach these?

4) How does the visual-verbal-musical sequence work? Does the class study all the visual examples first, then the literary, and finally the music? Or are these arts presented concurrently, in groups of three?

5) Are the arts only studied for their subject-matter content? Does the student learn nothing about line, color, and texture in painting; meter, rhyme, and imagery in poetry; or pitch, rhythm, and timbre in music?

6) If the three pursuits of man (permanence, justice, pleasure) are studied exclusively, what is learned about them? Are ethical judgments taught? Philosophic positions? Levels of thinking?

7) What are students expected to do with the knowledge and experience gained from the course? Is there any evidence that points to the attainment of any of the general goals stated earlier?

The remainder of the thesis, the final 175 pages, is divided into the three pursuits, each of which, in turn, is divided into examples and lists of works of art, literature, and music. The art sections contain eight to ten reproductions in black and white, each with an appropriate quotation. On page 22, for example, we see as a "Symbol of Continuing Life," the statue "Eros With Bow." Beneath it we read, "As a symbol of love of man and maid, Eros continues to play his part in the ongoing process of life." What is the reader to make of such an illustration? No literature or music is listed that deals with the Eros figure, which makes it difficult to see how the theme can be carried through the arts. No information is given about the statue other than its museum location. The viewer is given no help in looking at the statue, in seeing the repetition of the "bow" line in the wings, breast, legs, and arms; the occult balance of the body; the use of varying texture, and so on. He is only told that the figure symbolizes some aspect of man's "pursuit of permanence."

The literature sections run from twenty to forty pages of quoted material - Biblical selections, poetry, the Bill of Rights, and so on. It is here that the thesis makes most sense, for literature properly does convey a moralistic message which becomes part and parcel of the work of art. Painting and sculpture may do so, when they deal with a Subject, but music rarely does, in its own right. It is this confusion which may have prompted Price to confine his musical examples to song verses and opera plots almost exclusively. As to these, the selection seems oddly out-of-date, even for a list compiled in 1962. The Pursuit of Justice music section offers excerpts from "Go Down, Moses," "Dere's No Hidin' Place," "Didn't Old Pharaoh Get Los'," "My Lord is Awritin' All De Time," "Hard Trials" (Up stepped old Satan/wid a black Bible under his arm/Says he, "My Lord give me justice/ Den some ob dese people is mine."), "Hard to be a Nigger," etc., along with the finale (words only) of Beethoven's Ninth, William Tell, Nabucco, Chopin's Revolutionary Etude, Fra Diavolo, Billy Budd, Wozzeck, Shanewis (The Robin Woman), and other operas, all summarized in ten lines each! Throughout these excerpts and lists, one spots the most interesting spellings, too - Beethoven's "Erocia," the Italian town of "Pauda" and the French "Chartrer," the artist "Boticelli," later changed to "Bottcelli," and the "Braucacci" Chapel. We read of the "Natavity Story" and of Noah entering the "arc," of Casals playing the "violincello," and are asked to consult "Graves" Dictionary of Music and Musicians! This reader spotted some fifty misspelled words, and this without trying to read all of the literature examples!

In summary, though the basic idea of structuring the arts about a study of human pursuits seems sound and viable, Price has fallen short in his attempt to show his reader how this may be effectively done, and, in this reader's opinion, even shorter in his use of visual art and music.

Purcell, John Leslie. *Developing An Attitude Scale Using the Taxonomy of Educational Objectives - Affective Domain*. Washington State University, Ed.D., 1968. Order number 68-10,970. Reviewed by Charles R. Hoffer.

Briefly stated, Purcell's work consists of the development of attitude scales in two areas: "Willingness to Use Democratic Classroom Procedures" and "Attitude toward Racial Integration." Many statements concerning each area were rated by judges according to the continuum suggested by the *Taxonomy of Educational Objectives, Handbook II: Affective Domain* by Krathwohl, Bloom, and Masia. Additional scales were developed using the values obtained by the equal-appearing interval method. Significant correlations were obtained for the order imposed by the Taxonomy and the order determined by the equal-appearing interval judgments. The scales based on the Taxonomy also proved to be reliable and provided evidence of unidimensionality.

As one would expect, the degree of agreement among the judges was higher when the language of the statement closely resembled that found in the Taxonomy. For example, the statement "The teacher should be committed to democracy as the best education process" was easily matched to item 3.3 of the Taxonomy - Valuing: Commitment.

At least two conditions limit the application of Purcell's work to music education. One concerns the validity of all attitude scales: Do the answers given by respondents represent their true feelings? Indeed, although the authors of the Taxonomy point to this area as a serious limitation in assessing attitude, no attempt was made to ascertain the validity of the responses to the scales. The second limitation in using Purcell's work lies in its dependence on verbalization. To many teenagers, there is little or no difference between the words "acquiescence" and "willingness" or between "preference" and "committment."

Purcell demonstrates only that a scale can be developed on the basis of the Taxonomy. No interpretation is offered, and no application of the scales to education was attempted.

Popp, Harold Asa. The Implementation and Evaluation of Developed Content and Materials for a Music Literature Course in the Senior High School. University of Iowa, Ph.D., 1969. Order No. 70-4009. Reviewed by Hazel B. Morgan

The study conducted by Harold A. Popp was an extension of a research project previously completed by Glenn and Glidden.[1] Both studies "attempted to provide reasonable and practical solutions to some of the problems associated with establishing a music literature course in the high school curriculum " (p. 28). The justification stated for the present study was "that of validating the materials and methodology evolved through the parent study" (p. 30). In a larger sense, "this dissertation research has been an attempt to help correct a deficient area of public school music--the area of general music" (p. 123).

Primary Objectives. The primary objective in both the parent study and the Popp study was "the enhancement of students' understanding of the literature of music" (p. 28 and 115).

The operational objectives were stated as:

1. An increasing proficiency in the fundamental skills of music.
2. An increasing intelectual and emotional response to the sounds of music.
3. An increasing knowledge of the historical perspective of music.
4. An increasing ability to collect information about music.
5. An increasing ability to make value judgments concerning music.
6. An increasing ability to form generalizations and draw conclusions about music (p. 28, repeated on p. 47).

In the summary chapter, Popp stated that, "The purpose of this experimental research has been twofold: to implement the music literature course and to use that implementation as a basis for more extensive evaluation than the original pilot project could afford" (p. 115).

SOURCE OF THE DATA

The Schools. Under the heading of "Procedure for the Study", seven Iowa schools were listed as participating in the extended study. Each of these schools had received funds from the National Foundation on the Arts and Humanities. No information concerning the basis for selection was given. The schools were:

1. Aurelia Community High School
2. Camanche High School
3. Estherville High School
4. Fairfield High School
5. Muscatine High School
6. Sac City Community High School
7. West Des Moines Valley High School

In addition to the above schools, a Sibley, Iowa school; Prospect High School, Prospect, Iowa; and two large high schools in Berea, Ohio, provided data for the research (p. 31). In Chapter III, "Evaluation of the Study," the reader learns that "this research experiment represented a considerable variance in individual situations: class size (from 4 to 22); large and small schools (e.g. Valley High School--over 1000 and Aurelia High School--under 300); consolidated schools (e.g. Sac City Community School); metropolitan schools (e.g. Prospect High School)" (p. 100).

Experimental and Control Groups. The experimental sample consisted of 108 students (65 girls, 43 boys) who had elected to enroll in the course to be evaluated. These students were performance oriented. The control sample of 108 students (66 girls, 42 boys) was not enrolled in the course and was selected on the basis of same grade level and the following three matching factors:

1. Participation in performance training,
2. Composite scores on the Iowa Test of Educational Development,
3. Test scores from the pretesting administration on the Revised Listening and Achievement Test (p. 41).

Teachers. The importance of the teacher in the over-all study was stressed. For example: "The actual success of any course rests heavily upon the teacher" (p. 66). "The development of intuitive thinking depends almost entirely on the teacher" (p. 103).

Tests Used. Two testing instruments were used. "... data consist of test scores from the Revised Listening Achievement Test and the Listening Attitude Test administered both at the beginning and completion of the course. Evaluative treatment of the data was based on the test scores which were the result of these test administration procedures" (p. 91). The Revised Listening Achievement Test was included as Appendix A and consisted of nine pages.

Concerning the Listening Attitude Test, the author stated, "In the construction of the Listening Attitude Test (LATT), the same twenty-five excerpts employed in the Revised Listening Achievement

Test constitute the excerpts to which each student responds with an attitude indication. The student is asked to register his attitude toward the twenty-five taped excerpts immediately after their presentation" (p. 40).

Student Questionnaires. This instrument consisted of eighteen items designed to yield student opinion. Fifteen questions called for a check to indicate a "yes" or "no" reply; two involved indicating course units liked most and liked least. One question dealt with grades received in the course. The complete questionnaire was given in Appendix C.

Class Observation and Interviews. While the number of class observations was not given and no information was found concerning who made the observations, it was stated that, "Classes were observed while they were in session. These visits occurred toward the end of each semester. The main aim of observation for the classes was to help determine to what extent the individual courses fulfilled specific objectives" (p. 44).

In the summary chapter, the reader was told that, "Class observations provided a basis on which to report subjective and verbal affirmation of the statistical findings" (p. 117).

There was evidence that both students and teachers were interviewed. For example:

> "Several of the schools were visited. Classes were observed; both students and teachers were interviewed" (p. 101). "Comments and issues were discussed in student interviews which were directed as criticisms of the teaching" (p. 104). "In discussing any possible weaknesses of the course with the teachers..." (p. 106).
> "Through class visitation and interviews with the teachers participating in this research experiment, the adaptability of the teacher to the materials and teaching approach was also observed" (p. 107).

It was disturbing that exact information was not given concerning these observations and interviews.

COURSE CONTENT

The course content was based upon materials which had been designed originally for the parent study. The chief emphasis was placed "on studying and listening to the actual music itself...the inclusion of music theory or music history was always secondary and utilized only as they were pertinent to the basic understanding of desired musical concepts" (p. 29). "A combination of historical and musical genre content gave direction to the format of the course" (p. 49).

Course Units. The course consisted of seventeen units bearing the following titles. With the exception of Unit III, these titles were only found in Appendix H, "Discography."

I. The Elements of Music
II. Nineteenth-Century Instrumental and Descriptive Music
III. Style
IV. The Classical Sonata and Symphony
V. Variation Form in the Romantic Era
VI. The Concerto
VII. Song and Choral Music
VIII. Bach and Handel: The Culmination of the Baroque
IX. Early Music
X. Opera
XI. The Late Romantic Symphony
XII. Impressionism
XIII. Neo-classicism
XIV. The Influence of Folk Music
XV. Serial Technique and Expressionism
XVI. New Directions
XVII. Twentieth Century American Music

Music Excerpts. A total of sixty items, involving either two or three questions based on each excerpt, was developed from the original forty-five excerpts. "None of the musical excerpts used in the test duplicated music used for concentrated study during the course itself" (p. 36).

"The original excerpts were selected from:

Bach, J. S., Goldberg Variations
Beethoven, L.,"Appassionata" Sonata, first movement
Brahms, J., Symphony No. Three, third movement
Debussy, C., Afternoon of a Faun
Gershwin, G., An American in Paris
Haydn, J., Concerto in D for Cello, Op. 101, third movement
Hindemith, P., Symphony for Band, third movement
Josquin Des Prez, "Faulte d'argent"
Mozart, W., Quintet in E flat Major, K. 452
Palestrina, G.,"O beata et glorioso Trinitas"
Rachmaninoff, S., Symphony No. 2, third movement
Schoenberg, A., Three Little Orchestra Pieces, "Rasche"
Stravinsky, I., "L'histoire du Soldat; The Soldier's March"
Vivaldi, A., The Four Seasons, "Autumn," third movement

Excerpts added in the revised text were:

Bartok, B., Music for Strings, Percussion and Celesta, second movement
Berg, A., Wozzek, Final Act
Boccherini, L., Trio No. 3 in E flat Major, Op. 35.
Frescobaldi, G., Canzon Seconda
Praetorius, M., Bourree
Ravel, M., Daphnis and Chloe, Suite No. 2
Schuller, G., Symphony for Brass and Percussion, second movement
Schubert, F., Frühlingsglaube
Shostakovich, D., Violin Concerto, Op. 99, fourth movement
Tchaikovsky, P., Symphony No. 6, second movement

Special Equipment. In the absence of detailed and explicit descriptions of special equipment used, the following paragraph should give some indication of the equipment available for use.

> Various audio-visual media, other than the phonograph, were utilized throughout the course playing a significant role in both classroom and in a listening laboratory. Classroom tapes and laboratory tapes used with the magnetic tape recorder included numerous excerpts for concentrated study. The overhead projector was employed extensively with 10 x 10 transparencies of musical themes, diagrams of forms, and a variety of other informative materials (p. 29).

PROCEDURES

No sequential plan or specific order of procedure was stated as such. However, it should be recognized that considerable overlapping may have taken place in the time sequence. Further, that evaluative procedures would need to take place after certain data were available. The following procedural activities have been extrapolated largely from Chapter III, "Evaluation of the Study."

1. Selection of samples: schools, teachers, experimental and control student groups,
2. Selection and refinement of testing instruments: Listening Achievement Test, Listening Attitude Test,
3. Development of course content with suggestions for presentation techniques,
4. Administration of pretests using instruments,
5. Presentation by teachers of course as developed. During the time the course was in progress classes were observed, students and teachers were interviewed,

6. Administration of posttest,
7. Administration of student questionnaire,
8. Statistical treatment of data utilizing largely the following:
    a. Punch cards were prepared for the test data,
    b. Lindquist Type I factorial design was applied for significance of difference between groups,
    c. Lindquist 3-dimensional factorial design was used for identification of significant changes in achievement scores; pretest vs posttest scores,
    d. t test of difference was employed with the Listening Attitude Test for significance between the means of the pre- and posttest data,
    e. Pearson product-moment coefficient of correlation formula was applied to the Revised Listening Achievement Test data to establish reliability. A computer program developed by Dr. Marvin Thostenson was used to further verify the reliability.

CONCLUSIONS

The application of statistical design to the pre- and posttest data from the Revised Listening Achievement Test and the Listening Attitude Test yielded the following conclusions (p. 116).

1. There was a significant and positive change in student attitude toward music, as measured by response of the experimental group members to the "Listening Attitude Test." No measurement of the control group attitude was attempted.

2. There was a significant difference in the growth of musical achievement (determined through the administration of the Revised Listening Achievement Test) between experimental and control groups. The achievement of the experimental group was significantly greater than that of the control group.

3. There was no significant difference in the growth of musical achievement between boys and girls (within the experimental group). This indicates that the course is as valuable for one group as it is for the other.

4. There was no significant difference in the growth of musical achievement between the three grade levels of the experimental group--tenth, eleventh, and twelfth. Thus, it was apparently of equal effect for students of all three grades, giving the course more flexibility within the curriculum.

While fragmented conclusions were found scattered throughout this report, Popp used the following paragraph as his summary and conclusions of several important areas of his investigation.

> Compilation of varying descriptive data merely enhanced the above statistical results. Student questionnaires, interviews with students and teachers, and class observations provided a basis on which to report subjective and verbal affirmation of the statistical findings. Descriptive data of this type would tend to indicate, with reference to this music literature course, that statistical significance was closely related to practical significance. Such a statement is a major premise in support of establishing the music literature course in the curricula of the secondary school system (p. 117).

RECOMMENDATIONS FOR FURTHER STUDY

Recognizing some of the limitations of his investigation, Dr. Popp gave the following for further study. "In order to evaluate the high school music literature course more completely, some changes in materials need to be made and portions of the experimental design altered" (p. 118).

The general areas given as requiring revision were:

1. Extended research with more direct and effective control of the research environment, as well as the provision of an increased variety of situations.

2. Study of the junior high school curricular offerings and philosophy to determine any possible value of including the music literature course in the junior high schools.

3. A more exacting measurement of teaching procedures as they relate to the effectiveness of the course.

4. Improvement of the test reliabilities for both the Listening Attitude Test and the Revised Listening Achievement Test.

5. More precise statistics on course effectiveness as related to the element of performing students and nonperforming students.

6. Revision of course materials, including some deletions and additions.

7. A study of effective employment of listening laboratories within the school (p. 118).

Further, Popp suggested that:

1. Research should be continued to include a wider variety of school situations.

2. ...teachers of the classes be continually alerted to the importance of proceeding according to the theories [discussed in the thesis and] be carefully tutored in testing procedures.

3. ...sampling within schools should be carefully controlled...

CRITIQUE

The inclusion of a brief resume of the parent research would have been a great help to the reader. Without doubt, Dr. Popp was well informed but, too often, the reader was left dangling.

The organization of the material presented left much to be desired. For example: It was necessary to search through the entire manuscript to find an explicit and uncluttered statement of the problem. It was felt that the researcher knew what he was doing and what he wanted to accomplish but he did not succeed in stating it clearly step by step.

The presentation was further cluttered by many opinions and general statements which were not substantiated. For example: "Under existing conditions, music plays a highly restricted role in the educational process" (p. 1). "Carefully prepared materials often necessitate more stringent thoroughness than do scanty plans for a research approach. The all-inclusive survey methods are often adopted by incompetent teachers" (p. 66).

While no detailed information was given concerning the performance area of any of the teachers, it was stated that, "Although not statistically measurable, the performance interest area of the individual teacher generally seemed to influence the number of students in the class from that particular performance area" (p. 81). This area should have been treated statistically or omitted.

The review of related literature (p. 14-27) was convincing; however, the extensive use of quoted material in other parts of the first two chapters was an outstanding weakness.

Many questions were left unanswered. For example: Why weren't all schools visited? Was there a prepared list of items to be observed at each visitation? Who made the visitations? How many classroom teachers were involved? What criteria were used for school selection?

Several errors or inconsistenceis were noted. For example: "Full classification of students may be observed in Appendix G." Appendix G is a listing of "Musical Scores." In one place it was stated that the Listening Attitude Test was given to 99 students from the experimental group (p. 96), but no explanation of why the total of 108 students was not used. Identical lists of six operational objectives were given on pages 8 and 47 but different punctuation was used.

The area investigated by Dr. Popp is very important in the overall school curriculum and should receive continued attention. It is a very difficult area and he should be complimented on his efforts to shed light on the situation.

FOOTNOTE

[1] Neal E. Glenn and Robert Glidden, "The Development of Content and Materials for a Music Literature Course in the Senior High School," Cooperative Research Project H-243 (Iowa City: The State University of Iowa). See report on p. 7.

Raley, Alex Hart. Developing Musical Concepts in the Primary Grades.
Columbia University, Ed.D., 1966. Order No. 67-9453.
Reviewed by Marvin Greenberg

The study aims at presenting a rationale for planning music curricula in grades K-3 formulated on the sequential development of each child's understanding of the basic concepts of music. The dissertation's major premise is that education has the responsibility to guide each student in developing his ability to perceive the content of works of art. It follows, therefore, that music education must develop this perceptive ability by helping the learner to understand the musical concepts basic to the music of mankind. These concepts are analyzed in relation to two aspects of the musical experience--those that are part of the aesthetic nature of the experience and those that deal with the perceptual content of the experience. By helping students to perceive the content of musical works with understanding, it is assumed that the stage for aesthetic responsiveness will be set. The study then offers specific guidelines to direct teachers in organizing musical learnings in the primary grades in light of the perceptual and aesthetic nature of the musical experience.

The project consists of six chapters. The introductory chapter outlines some current trends in education and their importance to music education. Basic concepts and the curriculum, discovery learning, the self-contained classroom, changing concepts of teaching, and the importance of developing aesthetic sensitivity are discussed, with implications for music education.

Chapter Two, Overview of Music in the Primary Grades, defines the overall purpose of music education as providing for the musical growth of children. This broad purpose is broken down into three interrelated areas-- the development of musicality, the growth of aesthetic responsiveness, and the understanding of our musical heritage. Musical growth and the curriculum is discussed, as well as areas of musical learning such as musical understanding, knowledge about music, skills, appreciation, attitudes, and habits. Raley develops the notion that if basic musical concepts are to be the center of efforts in the curriculum, then the various activities available to the teacher must become the means of teaching these concepts. He also suggests ways in which activities such as listening, singing, rhythmic movement, playing instruments, creating music, and using notation symbols may be used for furthering conceptual development. Chapter Two concludes with a detailed outline of specific behavioral objectives for the primary grades within the broad areas of the structural concepts of music. Objectives are classified according to sound material, time and motion, combination of sounds, formal context, expressive context, notation, skills, and repertory. In addition, the skills needed for the attainment of these concepts are mentioned.

Chapters Three and Four provide background material on what the teacher needs to know about the aesthetic and perceptual nature of music. A detailed analysis of the aesthetic and musical experience is given, with frequent references to writers such as Stolnitz, Dewey, Copland, Phenix, Mursell, Maslow, Meyer, Langer, and Reimer, among others. The investigator concludes that:

> "1. The aesthetic experience involves an approach to an experience and meaning which may be called 'an aesthetic attitude.'
>
> 2. The aesthetic attitude is directed toward a singular aesthetic event and is not concerned with its relationship to other events.
>
> 3. The aesthetic experience demands every mode of awareness.
>
> 4. The aesthetic experience involves contemplation of the aesthetic object for its own, intrinsic value.
>
> 5. The aesthetic attitude and response may be to many experiences-- not exclusively those generally considered as art experiences.
>
> 6. Some experiences, specifically art experiences, lend themselves to education toward an understanding of the aesthetic approach to meaning.
>
> 7. We can teach the concept of the asethetic attitude only through repeated and varied experiences in which this approach to meaning is so clearly exemplified that the student will begin to discover its import for himself.
>
> 8. In teaching music, associations, programs, and analytical, critical, and historical descriptions should be used only insofar as they contribute to a heightened perception of the musical statement which is being considered in a given situation.
>
> 9. We can only indirectly affect the feelingful response by providing complete musical experiences in which this response may be exercised.
>
> 10. We can directly affect the student's aesthetic sensitivity by helping him to improve his ability to perceive the content of works of art. It is toward this end that the basic musical concepts are taught." (pp. 79-80)

Chapter Four outlines aspects of music which can be taught in the primary grades, including: the manipulation of raw and predetermined sound; concepts of time and motion (rhythm); linear, polylinear, and vertical sound combinations; concepts of unity, predictability, and non-predictability; expressive context; and notation.

In Chapter Five, the author offers many suggestions as to how the teacher can organize instruction in order to direct the child's learning of musical concepts. He reviews the literature on how an emphasis on the structure or fundamental principles of a subject will strengthen learning, and offers implications for concept formation, sequence and readiness, discovery learning, and the role of the teacher. A brief discussion on evaluating goals, curriculum, and individual student progress concludes the chapter.

The final chapter suggests many exemplary activities which may be used in teaching basic musical concepts in the primary grades. Some of these activities are then illustrated in specific lesson sequences as examples of how they may be included in the actual classroom situation. Examples of lesson plans are provided for linear sound combination (melodic movement up, down, and by repeating tones), meter (how music counts by twos, threes, and fours), rhythm (two to one ratio), and polarity of progressions (cadences and chord qualities). Each of the four lesson sequences has at least four individual lesson plans, arranged sequentially in order to develop the specific concept. A short selected bibliography completes the project.

CRITIQUE

The dissertation presents a general introduction to conceptual learing in the music program of grades K-3. Unfortunately, this project, written in 1966, is already dated, since, in the last few years, several authoritative and detailed research studies, music education texts, and basal music series have been published which offer much more to the reader than the Raley study. In addition, a rather limited view of conceptual learning is given in the project, with glaring omissions rather than inaccuracies. The reader who is interested in experimental research and a sophisticated design dealing with the problem of conceptual learning in music education will find little satisfaction in reading this study.

In an investigation aimed primarily at discussing the development of musical concepts in the primary grades, it is surprising not to find any mention of the meaning of "concept" and conceptual formation until page 121 of the 185-page text. Indeed, there is scant attention to the topic at all, with the sources cited limited to two works by Jerome Bruner. Important writings by Piaget, Gagne, Woodruff, and Ausubel dealing with concept formation and implications for instruction are ignored, and there are virtually no references made to studies on how primary grade children respond to aspects of music such as rhythm, melody, and harmony. These omissions seriously affect the arguments proposed by the author. One wonders why a study of this type did not devote at least an entire section to the vast literature on concept formation and include this analysis early in the text, before discussing the nature of musical concepts.

The problem of evaluating whether conceptual growth is occurring in our music programs is treated in very general terms. The few pages devoted to evaluation dwell mostly on the purposes of evaluation in the educational endeavor, with few suggestions as to how the development of specific concepts is to be measured with primary school children. There is no attempt to bridge the excellent discussion of specific behavioral objectives, presented on pages 41-45, with a consideration of evaluative techniques. This negates much of the value of these objectives for the classroom.

Who is to develop the basic musical concepts at the primary school level? The investigator fails to answer this question. Although he does report that "the evidence is not too promising for a shift to exclusively special teachers for such subjects as music and art," he does not take a stand on whether the classroom teacher can, in fact, handle the music program that he proposes. The discussion of the musical concepts and the lesson sequences reveals that many of the suggested activities could not be handled by today's classroom teachers who, too often, have a limited musical background. Regrettably, little attention in the study is given to the teacher and to the necessary training needed to develop the musical concepts listed in Chapter Four.

Several other weaknesses in the project may be noted. No mention is made of the problem of individualized instruction, a technique which the reviewer believes is essential if each student is to function at his own level of conceptual unstanding. Types of materials needed to develop conceptual learning in the primary grades are not mentioned, nor is the use of any music other than folk music and the classics. Except for chapters on the aesthetic and perceptual nature of music, there is a tendency to dwell superficially on many topics, some of them far removed from the main consideration of conceptual growth, rather than to focus upon specific problems and techniques of developing musical concepts. Finally, the chapters, except for Chapter Three, lack summaries and recommendations, leading the reader to infer what the chapter means for music education in the primary grades. The author should have offered many more specific suggestions based on his review of the literature in order to guide the reader to possible action in curriculum-building and instruction.

The most valuable sections of the report are Chapters Three and Four. These parts present a clear and detailed account of the aesthetic and perceptual nature of music. The list of musical concepts to be developed is comprehensive and could provide any curriculum planner with much guidance in structuring the discipline of music so that concepts may emerge in the primary school learner.

A promising technique for lesson planning is found in Chapter Six, in which four lesson sequences designed to develop musical concepts are given. The idea of these sequences in which several lessons are offered for a sequential development of a given topic, is much more helpful to a teacher than the isolated lesson plans so often found in music education method books, curriculum guides, and basal texts for the elementary school. The activities outlined in each plan are clear, detailed, and obviously based on the writer's experience with young children in the classroom.

The time is right for experimental studies on musical concepts and concept formation in children. The Raley study can serve to introduce the researcher and curriculum worker to certain facets of the problem, but a more definitive project on the topic is still awaited.

Rasmussen, Warren Irvin. An Experiment in Developing Basic Listening Skills Through Programed Instruction. University of Southern California, D.M.A., 1966. Order No. 66-5492.
Reviewed by Carroll L. Gonzo.

There is common agreement among music educators that one of the major objectives of the music program in the elementary school is to develop the broad musical understanding and musical responsiveness of each child. Traditionally, elementary school music curricula have included music listening as one of the means for developing musical understanding and musical responsiveness. At the time of Rasmussen's study, there was little evidence of sequential planning of music listening experiences for elementary or secondary students in the professional music education literature. Historically, music listening activities in the classroom have been characterized by a nonsequential, composition-by-composition approach. The methodology consisted of introducing the student to a variety of recorded musical works without any systematic attempt to focus upon the components which lead to the development of listening skills. Rasmussen's study attempts to identify these skills as well as to design, implement, and evaluate an experimental series of programed tape recordings for developing basic listening skills.

THE PROBLEM

The author of the study indicates that there are several basic assumptions to be made about music listening.

> The ability to listen effectively and intelligently to music is, in part, a skill. It is in the intellectual awareness of what is heard that true listening growth takes place. It is in this area that the field for the development of basic listening skills is found. Listening skills are best developed through guidance and practice with the materials and methods involved. This guidance and practice proceed most effectively upon the basis of some logical organization. Such organization should provide for experience with a diversity of skills as well as growth in all skills. This will reinforce previous learning and provide new stimuli for those who did not acquire the skills in earlier presentations.

The author defines listening skills as the aural ability and intellectual capacity to perceive musical elements and their relationship in music. Therefore, a listening design could be based entirely on instruction and practice in perceiving musical elements.

The problem, says Rasmussen, is that although current literature calls for the sequential planning of the music listening curriculum, little evidence of such planning exists, particularly at the elementary and secondary levels. In addition to this, Rasmussen believes that there is a real need for investigations that deal in developing programed instruction for music listening.

The writer presents a comprehensive review of literature which bears on the problem of teaching music appreciation. He indicates on page 23 of Chapter II that:

> A belief in the importance of providing instruction for music listeners appeared during a transitional period in music history. During the eighteenth and nineteenth centuries, music came to be, more than ever, something to be listened to for its own sake.

The writer goes on to point out that the rise of the moneyed class led to the expansion of music publication and to the general popularization of culture. The nature of Romantic music encouraged a type of appreciation based on feeling and affect. Aestheticians and musicians expressed the belief that study and understanding of the elements of music provided the best means of perceiving music's essential nature.

Chapter III reviews selected literature in the field of music psychology. It is Rasmussen's contention that the literature of music psychology does not provide positive data on which to base methods and materials for a listening curriculum. Rasmussen makes several major observations about the role of psychology in music listening: (1) the measurement of the physiological response to music does not appear to be of value in evaluating the type or degree of aesthetic response; (2) music psychology has not been able to prove the existence of specific emotional and intellectual content in music except as this has been verbalized by listeners; (3) music psychology has not proved that analytical-intellectual listening is more superior or less superior to sensuous-emotional listening; (4) taste and discrimination rest on cultural indoctrination rather than on musical absolutes; (5) research on children's listening has been neither recent nor definitive; and (6) at the present time, there exist no generally accepted standardized measures of music appreciation which could serve to evaluate a listening program.

Chapter IV is a survey of the development of music appreciation in the elementary schools. It focuses upon trends in philosophy and methodology. By examining music textbooks, music series, and other music materials, Rasmussen delineates these trends. He suggests that, in 1920, courses in music appreciation were highly structured. In 1930 there was a growing tendency to consider music listening primarily as a means of enjoyment. The 1940's saw elementary music appreciation largely in terms of its correlation with other subjects. The 1950's and early 1960's witnessed a renewed interest in providing significant listening experience for all students. The writer concludes from this review that the music appreciation movement has been characterized by a nonsequential, composition-by-composition approach.

PROCEDURES

The design of this study is based on a hypothetical sequence with the idea that music appreciation can be approached through teaching listening skills. Skills, in this context, include concepts and vocabulary necessary to perceive musical elements and their relationships. This assumption means that the listening curriculum is not to be organized on the basis of playing certain desirable compositions. Rather, it is designed to provide instruction dealing with ways in which particular musical elements function. Rhythm, melody, tone color, texture, and form are considered to be the musical elements which constitute the basis for developing listening skills.

The writer uses four criteria for the construction and evaluation of the programed series designed to develop listening skills: (1) selecting listening skills which are considered musically significant and capable of objective presentation and evaluation, (2) selecting musical illustrations which are appropriate for introducing and developing particular skills, (3) organizing the listening skill presentations into a sequence of listening lessons, and (4) presenting the listening sequence with provisions for immediate evaluative response through the use of programed tape recordings in a multimedia format.

According to the author, the EDEX machine, a new device for systems instruction, made it possible for him to obtain continuous evaluative data on class and individual achievement throughout the listening sequence.

The experiment was carried forward with two fourth-grade classes, 24 in each class, at the Frederic Burk School, San Francisco State College. Both classes received two 30-minute lessons each week over a period of 13 weeks. In order to determine whether the two classes were typical groups, Rasmussen examined several competencies of the students: (1) the student's scholastic ability based on subjective evaluations by the principal and the classroom teacher, (2) the student's background in music notation based on his performance on the Knuth Achievement Test (the author also claims to have determined the student's background in formal music notation study simply by inference), (3) the student's aural acuity and discrimination as measured by the pitch and rhythm portions of the Seashore Measures of Musical Talents in order to determine whether a lack of ability in these areas might adversely affect the experiment, and (4) the musical background of the student as determined by a simple check sheet that included questions about the student's personal and home background in music as well as his feelings about music in general.

The major objective in organizing and planning the listening lessons was to develop in each student the facility for careful and attentive listening. This, Rasmussen indicates, was accomplished by increasing the amount of time that students spent listening attentively to a piece of music as well as by presenting musical excerpts that provided pleasure without necessarily encouraging extreme overt enthusiasm.

The organization, presentation, and evaluation of each listening lesson were in large measure determined by the nature of the systems instruction inherent in the EDEX. This system allowed the investigator to: (1) prepare and present the lessons through the use of programed tapes, (2) program the tapes to operate automatically along with such auxiliary devices as motion pictures, slides, or overhead projectors, and (3) evaluate instantly, either by preprograming or by manual operation, individual and/or class responses to questions posed in a multiple-chioce format.

The evaluation of the experimental design was based on five criteria:

1. The degree of class and individual success as indicated by objective evaluation throughout the course of the listening lessons.
2. The degree to which class success continued while the material of the lessons became more complex.
3. The extent to which there was observable retention of interest and attentive listening throughout the course of the experimental design.
4. The extent to which the students perceived and described music in terms of the elements presented during the listening lessons.
5. Classroom teacher evaluation of the effectiveness of the experimental design as they saw it influence their students' attitudes toward music listening.

CONCLUSIONS

Results of the experiment support the idea that sequential planning on the basis of listening skills is an effective means of teaching music appreciation and that these skills can be taught effectively through the use of programed tape recordings. Both classes maintained a high degree of interest throughout the listening sequence. Achievement scores and written descriptions of music heard during the last lesson indicate that children were perceiving music in terms of its constituent elements.

COMMENTS

Music is an aural art, and, therefore, any endeavor to educate intelligent lesteners, so that they can approach music competently on its own terms and in terms of the techniques and material used, is to be highly commended. Rasmussen seeks in his investigation to devise an experiment that attempts to provide some answers concerning the nature of music listening as well as to determine the objectives and procedures whereby this skill can be more effectively developed. An experiment implies that an operation is being carried forward under controlled conditions in order to discover an unknown effect or law, or to test or establish a hypothesis. The writer describes his study as an experiment in developing music listening skills and has, in a certain sense, accomplished some of the objectives which he outlines.

On page six of Chapter I, the author delineates the limitations of his study. He indicates that the study is exploratory rather than exhaustive or definitive. The design of the study allows only for selected listening skills in a series of 25 programed lessons. The experimental group was not large, and, consequently, Rasmussen points out that any interpretation of the results has to be done with care. In addition to this, the possibility of obtaining a typical sample was minimized. Rasmussen also states, as a limitation of the study's design, the need for assuming that listening for musical elements is the best method of perceiving music. Finally, the choice of skills and the sequence of their presentation in the taped lessons were determined on the basis of his experience, the review of literature, reference to the music itself, and continuing evaluation of responses in the classroom situation. In Chapter V, page 71, however, Rasmussen indicates that the literature he reviewed was of no help, and, consequently, the experimental and sequential design was based on his own experience. Accepting the possibility that related literature was of no assistance to the writer in developing his design does not, however, compensate for the weakness of the design when viewed from an experimental perspective. Rasmussen says on page 73, Chapter V, that it was not the purpose of his experiment to prove his method of instruction superior to any other method of instruction. Yet, on the same page, he posits a series of questions which deny this intention. For example, the author wishes to determine whether: (1) listening to the elements inherent in music can be done without reference to programmatic interpretations or biographical anecdotes, (2) certain materials and methods prove more effective than others, and (3) programed instruction appears to be an effective means of developing listening skills.

In an effort to get at these questions, the investigator sought, initially, to determine the students' scholastic ability, background in musical notation, aural acuity and discrimination, and musical background (through an extremely ambiguous questionnaire). Unfortunately, this approach did not allow the writer to determine what listening skills his subjects possessed. A pretest dealing specifically in the listening skills that he planned to teach through programed instruction would have allowed Rasmussen to give a posttest at the end of the experiment to determine what gains, if any, were evident. As it is, the author's evaluation consists of the percentage of correct responses that students made on what is purported to be an "objective" multiple format test. Had Rasmussen given a valid and reliable pretest and posttest, one could accept his conclusion that his method was effective with more confidence. Even without this consideration, there is no attempt on the part of the researcher to determine the validity and reliability of his test. It also appears strange that Rasmussen was not interested in determining the differences between his method and the traditional method which he so carefully researched in his chapters on related literature. Had he experimented with a control group utilizing traditional techniques and an experimental group utilizing his programed approach, he could have made some evaluative comparisons.

In his evaluation, the investigator evaluates his experiment and not his design. In addition, much of the detail regarding his teaching procedure in Chapter VI could have been reported in an appendix. It is disconcerting that the effort put forth in developing the teaching procedures was not duplicated in the evaluation procedures. Moreover, Rasmussen relied totally on the EDEX device for his evaluation of the students' improvement in listening skills. This evaluation was simply a reporting of percentages. Statistical treatments which might have provided more definitive and perhaps conclusive evidence concerning the study were not employed.

Rhythm, melody, color, texture, and form are the elements that Rasmussen identifies as necessary to perceive in order to listen to music effectively. To research such a broad range of musical elements is a formidable task indeed. It seems that a careful and complete analysis of one of these elements would have been more than adequate for investigation.

Rasmussen's study deals with an area of real concern to music educators. There are many questions about the nature of music listening that need to be answered, as well as questions about the methodology employed to develop listening skills. It is hoped that the author considers this area important enough to warrant further investigation.

Rhoden, Jane O. *A History of Music Written for Preschool Children.*
Florida State University, Ph.D., 1969. Order No. 69-17,681.
Reviewed by James B. Fitzpatrick

PROBLEM

Dr. Rhoden investigated music written especially for preschool children. "The purpose of the study was fourfold: (1) to compile a history of songs for preschool children from the literature written by or about those who have contributed to child development or preschool education; (2) to assemble examples of music for preschool children represented at various periods of history; (3) to note any changes which have occurred in music for preschool children; and (4) to investigate research which has been conducted relating to music for preschool children." (p.2)

Specifically, Dr. Rhoden sought answers to the following eight questions.

1. How did music for preschool children change over the years?
2. What trends occurred in research related to music for preschool children?
3. Were there any basic differences in the words and music of songs since 1800?
4. What types of pictures accompanied songs?
5. Who wrote songs for preschool children?
6. What methods were used to integrate music with the preschool program?
7. What music publications are currently available for use with preschool children?
8. What role did music play in the preschool program? (p.3)

PROCEDURE

To determine changes in music literature presented to preschool youngsters since 1800, the researcher examined approximately 3,100 songs. In addition, the investigator contacted 186 publishers regarding their offerings directed toward preschool music students. A history of preschool education was undertaken, as well as a review of literature related to music and the preschool child.

The second and third chapter of the study present a general discussion of childhood education in the Western world. The second chapter deals with the ancient Egyptian, Israelite and Greek societies, as well as the musical philosophies of Luther, Comenius and Pestalozzi.

④

The third chapter concerns the music education of preschool children from the time of Froebel to the present day. It includes a description of Froebel's method, brief biographical data on Froebel's disciples, and a description of the function of music in the Montessori method.

A discussion of research involving music and the preschool child comprise, the contents of the fourth chapter. The researcher reviewed abstracts of research described in the following sources: Dissertation Abstracts, American Doctoral Dissertations, Doctoral Dissertations Accepted by American Universities, Guide to Lists of Master's Theses, Masters Abstracts, Music Index, Journal for Research in Music Education, Child Development Abstracts and Bibliography, and Psychological Abstracts. Most of the literature discussed was of 1920-1960 vintage.

The fifth chapter contains musical examples and several facsimile pages from early twentieth-century song collections. This is followed by a chapter presenting a selective, annotated bibliography of 204 musical publications designed for early childhood education.

CONCLUSIONS

The following conclusions were drawn by the reviewer from the final chapter of the study.

1. Froebel was perhaps the first personality to adapt songs and games into learning experiences for young children. This practice was kept alive by many of his followers; these include Mrs. Carl Schurz, Miss Elizabeth Peabody and Miss Susan Blow.

2. Most musical activities offered to preschool children prior to 1900 were designed to aid the children in learning to sing. By the mid 1930's , music was combined with other activities, while the emphasis since the decade of the 1940's has been on both creative and appreciation-centered musical experiences.

3. Most texts of preschool songs are about either the seasons of the year, people, occupations, or animals. Technological developments have influenced song texts--transportation songs for example--however, the musical content of the literature has shown little change since 1800.

4. The illustrations in songbooks have changed from the fairy-tale-like sketches of the 19th-century toward the realistic, or abstract, visuals to be found in mid-20th-century publications.

5. "Over the years, music for the preschool child was written by musicians and not by child development specialists... As a result, music for the young child has not always been appropriate for him." (p. 181)

6. Few theses and dissertations are concerned with the preschool child and his musical experiences.

7. There is a large body of music literature available for use with preschool children.

CRITIQUE

The most valuable portions of this study are the 130 item bibliography and the annotated list of 204 song collections appropriate for preschool children. This latter offering might aid the elementary school librarian or the curator of an educational resource center to develop a collection of song literature for young children.

The dissertation, which might be broadly described as "descriptive-historical" research, attempted to investigate such a wide range of topics that it is no surprise to find spotty and arbitrary coverage of many items. The purposes of the project do not seem to have been accomplished, nor were the eight questions answered in a thorough and scholarly manner.

This reviewer ascribes many of the weaknesses of the study to the fact that not a single member of the advising committee was from the area of music. This dissertation was developed in the Department of Home and Family Life and supervised by a committee consisting of three Home Economists, a specialist in Adult Education and a Professor of Elementary Education. Perhaps this accounts for the superficial, and sometimes erroneous, treatment of musical data in the study. The absence of commentary on Orff, Kodaly and Suzuki, as well as the omission of important studies on music in early childhood, might well be attributed to deficiencies on the part of the advising committee rather than to the researcher. Perhaps there is a lesson here: if quality scholarship is to take place in our field, a researcher must make it his responsibility to be aware of, and, if possible, to assist, research related to music education being conducted in other departments on his campus.

With the exceptions mentioned above, this study would seem to be of little value to the systematic researcher of early childhood music education.

Sampson, Ulysses Thomas. *An Identification of Deficiencies in Past and Current Method Books for Beginning Heterogeneous Wind-Percussion Class Instrumental Music Instruction*. Indiana University, Mus.Ed.D., 1968. Order No. 68-16,690.
Reviewed by Lawrence J. Intravaia

The writer's stated purpose was to determine the extent to which beginning band method books have been designed for use in the teaching of beginning heterogeneous wind-percussion classes and to identify deficiencies in such books. A large portion of the study was devoted to the development of a method book evaluation form and to method book evaluations.

On the basis of his review of literature, the writer determined that there was a clear need for identification of deficiencies in beginning band method books. He also found that there has been insufficient communication among authors, publishers, and teachers regarding the structure and approach of method books.

The chapter on a short history of beginning band method books is curiously limited to a rather detailed analysis of early publications written during the twenties and thirties and contains only a brief and superficial listing of several method books written during the forties and fifties. There is little mention of the present decade except to say they are similar.

His first step in constructing a form to identify deficiencies in method books was to develop a list of seven fundamental categories: instrumentation, basic pedagogical approach, physical features, rate of progress, material, organization, and teacher's manual. Sampson personally interviewed nine authors of method books, using questions based on these categories. From these interviews, the writer was able to construct a master checklist with 19 categories.

This checklist, in the form of a questionnaire, was submitted to 21 instrumental music teachers for their reactions. The responses resulted in a revised and abbreviated questionnaire which in turn was submitted to three additional teachers to check its validity. The final evaluation form contained a rating scale and was applied to 20 elementary band method books. The individual investigators rated the method books against the specific criteria in the checklist, and, from this, a list of specific and common deficiencies in method books was derived.

The several appendices contain, among other items, the questionnaires sent to the 21 instrumental music teachers, the master checklist for the preparation of the teacher questionnaire, a list of beginning band method books, and a resume of interviews with authors of method books.

The study contains several questionable aspects, such as the limited survey of the history of method books already mentioned. Since the historical survey was not carried up to the present with the same degree of detail and analysis, it is difficult to accept the statement that data was sufficient for the construction of a form for evaluating a sampling of books.

Appendix G contains a list of 59 beginning band method books. In the evaluation of method books, the writer selected 20 books for rating but did not describe his selection procedure.

Of the 21 persons named as participating teachers in the study, one is from Ohio and the remainder from Indiana. A perusal of their listed teaching positions indicates a good spread in grade levels from junior high (possibly elementary) through college. This portion of the study might have been strengthened had the writer requested participation from teachers from all parts of the country. As many instrumental music teachers realize, one of the factors hindering their efforts to coordinate and organize the instrumental music field on a national basis is the difference in teaching conditions and situations. These differences exist not only within an area of a state, but among various areas of a state and among large areas (several states) of the nation. Couple this with the disparity of concepts regarding the purposes and objectives of instrumental music, and one has a reasonably good idea of the current problem. Since the writer refers to instrumental music teachers (who desire better and more effective beginning method books) in a general manner, a group of participating teachers selected on a national basis would have been preferable.

As in the case of concert literature, the publisher is maligned for his shortcomings in producing method books which do not meet all the expected requirements of instrumental music. However, the publisher has to meet the wide range of situations mentioned. For example, little or no musical background in music reading ability on the part of beginners; good background in music reading skills on the part of beginners; beginning band method classes starting at various grade levels (4, 5, 6, or higher), meaning varying comprehension levels; and classes meeting a variable number of times per week, from once to daily. Since the writer interviewed authors of method books, he probably should have contacted their publishers. Publishers are businessmen, not music educators, although they do maintain close touch with trends and developments in music education. They are hampered by rising production costs and are, therefore, guided by sales reports in determining the type and quality of literature to publish. They are also somewhat restricted in choice of literature by the policy of public domain.

Perhaps Sampson is a bit naive when he suggests that the publishers, by reading about the deficiencies in method books identified in this study, will attempt to minimize such shortcomings in future books. His study may not represent feelings and attitudes on a national scale. He could, however, make copies of this study available to publishers and have deficiencies pointed out by the authors interviewed.

For the new or novice instrumental music teacher, especially one who is somewhat unfamiliar with method books and lacking in criteria for making selections, the information contained in chapters five, six, and the master checklist in Appendix F is extremely valuable and helpful. In his "Recommendations," Sampson suggests several items that are particularly noteworthy. One or two which would help bring method books up to date with current educational techniques are:

1. Achievement tests should be created to evaluate how much a student learns from a method book. Such tests might also be designed to show the best sequence for introducing instructional features.

2. Researchers should examine extant method books to determine if procedures are compatible with current learning theory. There is also a need for studies to determine the feasibility of programing current books.

The merit of this study resides in the fact that it deals with a subject to which instrumental music teachers should give more thought and analysis. Too often these teachers are influenced by elements other than their personal judgment. It is unfortunate that those who should read this study will not, for many reasons, have access to it.

Sarvis, Georgia Loper. An Investigation of the Nature and Conditions of Music Education Courses in Teacher Training Programs in Selected Universities of the United States. University of Oregon, Ph.D., 1969. Order No. 70-15,356.
Reviewed by Robert F. Noble

One of the controversies, particularly in the last two decades, concerning general music in the elementary school has been whether the regular classroom teacher, in the self-contained classroom, or the music specialist, in a departmentalized plan, should teach the music classes. On one hand, the philosophy of the self-contained class almost demands that music be taught by the classroom teacher; on the other, it is probably true that a greater depth in music instruction can be gained by the music specialist. Apparently assuming that the classroom teacher will continue to teach a majority of the elementary music, Sarvis indicated: "Wherever the self-contained classroom principle operates either in small or large systems, the classroom teacher is responsible for the music program regardless of the availability of a music specialist," and that: "Elementary teachers must learn that they are capable of teaching music to their students if music is to become truly integrated with all subjects rather than allocated to the special subjects class."

THE PROBLEM

Because the effectiveness of the general music program seemed highly dependent on the training elementary classroom teachers received in their teacher education programs, and because there seemed to be a great variance over the country in that preparation, Sarvis investigated five variables in elementary music instruction in selected universities of the United States: (1) content of the elementary school music course and the nature of its selection, (2) individuals responsible for instruction of the course, (3) course requirements in professional music education with methods a particular concern, (4) the position of elementary school music courses in the hierarchy of professional education courses, and (5) trends in music education.

The study was limited to a population of universities which had a school or department of education, with a total student population of at least 5,000, and institutions which included both graduate and undergraduate offerings.

HYPOTHESES AND DESIGN

Seeking to make comparisons between those schools where the elementary school music course was required and those schools where it was not required, Sarvis tested a number of hypotheses (here paraphrased):

1. There is no significant difference in the content of the course in elementary music in those universities where the music course is required and in those universities where it is not required in terms of (a) content nature, (b) course priority, and (c) personnel.
2. There is no significant difference in the number of units of credit where the course is required and where it is not.
3. There is no significant difference in the course in those schools where it is required and those where it is not in each of 13 content items (e.g., singing experience).
4. There is no significant difference in the personnel teaching the course in those schools where it is required and those where it is not in each of five categories (e.g., degree earned).
5. There is no significant difference in the opinions expressed by course instructors in universities where the course is required and where it is not as related to trends in (a) services of the music specialist, (b) the classroom teacher as solely responsible, and (c) qualifications for teaching elementary classroom music.

A closed-form questionnaire was sent to the dean and one to the instructor in a 100 percent sampling of the population described previously (N=123). Total responses were 86 percent, of which N=93 were usable copies. Frequency counts were tested by chi-square, with Yates' correction formula. Where observations were ordered but not measured, the Spearman rank order coefficient was used. Hypotheses were tested at the .05 level of significance.

FINDINGS

Related to the listed hypotheses, the following findings were indicated:

1. Among the usable responses, 77 percent of the institutions require a course in elementary music methods and 23 percent of them do not require it.
2. There was no significant difference in the determination of course content. However, students were more actively involved in planning in schools where the course was not required.
3. The highest percentage of schools gave three-semester hours of credit for the course. Hypothesis two failed to be rejected.
4. Hypothesis number three was rejected. The rank order of included content items was fairly similar among the institutions but there were some discrepancies. A rank order difference of five or more was found in classroom experience, philosophy of music education, and listening to music.

5. Of the five categories relating to personnel teaching the course, (hypothesis four) a significant difference between the two groups did not appear in any of the five.

6. No significant difference was found in the reaction to the problem concerning the hierarchy of the elementary music course in teacher education.

7. No significant difference was found between the two groups dealing with trends concerning the services of a music specialist and the classroom teacher's responsibility for music. Both groups generally agreed that there was an increase in the use of a music specialist.

8. A significant difference did occur between the two groups on the trend to increase or decrease music qualifications for the classroom teacher. Where the course was required, respondents indicated no change in qualifications for the teacher, but in universities where it was not required, 39 percent of respondents indicated a slight increase and 28 percent a marked decrease in the qualifications.

CONCLUSIONS

Only three conclusions were listed by the investigator:

1. A majority of instructors felt the music preparation of the student teacher was insufficient.
2. There is a problem of balance and increased pressure within the department as to how best to utilize the number of units allocated to the teacher training program. There is a need for a global look at the entire program to ascertain priorities pertinent and relevant to the teacher today.
3. Respondents to the questionnaire were primarily associate and full professors; they, therefore, are primarily the ones who have power over the status quo and are in positions to effect change.

CRITIQUE

Sarvis approached the problem in a sound manner. The variables of the study, hypotheses, design, and sampling were clearly laid out; the statistics used were appropriate to the nature of the evidences. With extensive and sound findings, the conclusions seemed disappointing. Usually, the conclusions are the heart of the study, yet the conclusions revealed little. Both the second and third conclusions, although most music educators might agree with them, were based on evidences not provided in the study. While a "global look" may need to be taken of the entire teacher training program, Sarvis, in this study, did not look beyond the music portion itself, and whether or not associate and full professors have power to effect change in balance of the curriculum was not supported by the study.

Nevertheless, this was a very worthwhile endeavor. The evidences presented should be of value to all universities in examining their offerings in music education for the elementary classroom teacher.

Schoof, Jack F. A Study of Didactic Attitudes on the Fine Arts in America as Expressed in Popular Magazines During the Period 1786-1800. Ohio University, Ph.D., 1967. Order No. 68-1957.
Reviewed by Robert W. John

Although the arts flourished in America prior to the Revolutionary War, not until after independence were we in a position to develop a real American attitude and philosophy toward the arts. Now, as a young and vigorous nation, ready to stand alone, our golden opportunity was at hand. In contrast to the quiet, polite, almost insipid role that the arts played in the mother country, we could allow the arts a more vibrant place in our lives. It is interesting to speculate "what would have happened if. . ." and to try to imagine the history of a phenomenon in light of an alternate course. We are here concerned, however, not with what might have been but with what, in fact, occurred.

Schoof read all of the popular magazines published in the three major American cities in the later eighteenth century -- Boston, New York, and Philadelphia. He noted their attitudes toward the fine arts and felt that they generally reflected the attitudes of the entire country. In this assumption he is probably correct. The title of his thesis refers to the prevailing attitude-- didacticism. Over and over again, the writer found that the didactic use of the fine arts was dominant in postrevolutionary America. "The concern was with the function of the arts; with their use in fostering ideals which were actually outside the realms of art. The expression of patriotism, morality, and virtue became major goals in the arts. . . and in this overwhelming emphasis, aesthetic values were unrecognized, misunderstood and generally ignored."

It should be noted that most of the magazines considered were written for female readers. The arts, then, took on the same function that they occupied in the curriculum of the finishing schools, that is, to supply the lady with the refinements which would be expected of her in polite society. The arts, it was felt, improved the mind and the heart. Although America had just fought to free itself of European political ties, it still urgently attempted to imitate the sophisticated fashions, manners, and tastes of the recent enemy. To do this successfully, it would have been necessary to understand the fine arts in a far deeper and more significant way than most Americans were capable of doing, and, since that understanding was generally lacking, the emphasis on the didactic use of the fine arts became dominant.

Even in the field of architecture, the beautiful, classical buildings erected during this period were not motivated primarily by aesthetic concern. Schoof claims that the classical style was adopted primarily because Americans felt a parallel existed between their new republic and the ancient republics of Greece and Rome. Classical forms expressed "republican virtues" and therefore were suitable to express American national sentiment. Although buildings physically reflected a classical movement, there was really no concern in America at this time for classicism. Classical architecture was "chaste" because it had a clarity and logic in its simplicity; it was "magnificent" because it had a nobility; and it was "republican" because an ancient republic had conceived it.

This is a fine dissertation, the type of which we could use many more. Let us hope that we hear more from this fine writer in the not-too-distant future.

Shelton, John Stanley. The Influence of Home Musical Environment Upon Musical Response of First-Grade Children. George Peabody College for Teachers, 1965. Order Number 66-4419. Reviewed by Marvin Greenberg

The aim of the study was to determine relationships between the early home musical environment of first-grade children and musical responses of these children in school. The investigator was interested in locating specific factors in the home musical environment which influence musical response.

PROCEDURE

Shelton asked three elementary school music specialists who taught in five schools of Cape Girardeau, Missouri, to select first-grade children who showed the most musical response and the least musical response after two months of contact in school. A selected list of points to be used for evaluation was given to each teacher as a guide, and included the child's ability to sing in tune, distinguish between high and low pitches, sense pulse and accent, respond to rhythms through bodily movement and by playing instruments, respond to contrasting tempi and moods while listening to music, and participate in musical activities with enjoyment and freedom. Eighteen children were classified by the three teachers as musical and twelve as unmusical. These thirty children became the subjects for subsequent case studies involving their home musical environments.

The investigator sought to evaluate each child's preschool home environment by going into the home of each subject and interviewing parents and other family members on the child's opportunity to hear music in the home, the availability and use of musical instruments in the home, the parents' participation with the child in any kind of musical activity, the presence of older siblings who were musical or unmusical, and the musical background of the parents. Additional information was secured from kindergarten and church school teachers about the musical opportunities in these settings. On the basis of findings derived from these interviews, the homes of the thirty subjects were grouped according to three categories-- musical home environment, average home environment, and unmusical home environment.

Following the interviews and classification of home environments, intelligence test scores were obtained for each child. The test used was the Lorge-Thorndike Intelligence Test, Level 1, for kindergarten and first grade. The mean IQ of the eighteen children rated musical was 112.67, while the mean IQ of the twelve unmusical children was 99.08.

The difference between the means proved to be significant at the .01 level of confidence. Scores on the Metropolitan Readiness Test were obtained for each subject, with such readiness factors as linguistic aptitude, visual and auditory perception, motor skills, number knowledge, and the ability to follow directions in group work tested. A difference between the means of the musical and unmusical children was subjected to the *t* test. Again, a significant difference (.01 level) was found.

Shelton noted significant relationships between home musical environment and musical responses at the .01 level of confidence, as illustrated in the following table (page 35):

TABLE I

CONTINGENCY TABLE TESTING THE RELATION BETWEEN HOME MUSICAL ENVIRONMENT AND MUSICAL RESPONSE OF FIRST-GRADE CHILDREN

Responses	Home Musical Environments			Totals
	Musical	Average	Unmusical	
Musical	(2.4) 3	(6.6) 11	(9.0) 4	18
Unmusical	(1.6) 1	(4.4) 0	(6.0) 11	12
Totals	4	11	15	30

$x^2 = 14.650$*
df = 2
P at .01 = 9.210

*x^2 is significant beyond the .01 level of significance. (Reviewer's note: numbers in parentheses are expected frequencies).

RESULTS

The data indicated that 73 percent of the unmusical homes produced unmusical children. All but four of the eighteen musical children came from musical or average home environments. The greatest number of musical children came from homes rated only average in their musical environment. These average homes provided no case subjects classified as unmusical. Only four of the thirty homes were rated by the investigor as musical.

Chapter III of the study presents several tables showing percentages of frequency of the occurrence of specific factors in the home musical environment for the children rated as musical and unmusical. Factors showing a close relationship to musical response include: frequent opportunities for the child to hear singing in the home; frequent opportunities to sing with other family members, especially with the mother and older siblings; frequent opportunities to hear records in the home; and ability of the parents to sing melodies and to learn new songs. As compared with the unmusical children, the musical children:

1) showed an early interest in singing in their homes
2) made a conscious effort at singing before kindergarten age
3) made up tunes and sang spontaneously in play
4) moved rhythmically to music played on the radio, television, or recordings
5) desired to experiment with instruments when available
6) played with musical toys or toy instruments in the home

The musical children were provided with records of their own choice much more frequently than were unmusical children, and had a greater variety of types of music to listen to than the unmusical children. Factors showing no significant relationship to musical response included parental aid in having the child move to the beat of music, the presence of a piano in the home, previous study of applied music by the parents, and attendance at musical programs by the parents.

Shelton notes that homes classified as unmusical generally did not provide opportunities for the child's active participation with music. Parents in these homes, although aware that music is not part of their home environment, lack concern for music for themselves and their children. These parents usually do not sing or play an instrument. For them, music serves primarily as a background for other activities rather than as a necessity.

COMMENTS

Shelton is to be commended for choosing a topic which is of prime concern to developing an understanding of music for young children, and clearly defining the problem with which he is concerned. The value of the study lies in its suggested procedures for use in investigating the home environment as it affects musical responses of children. Several weaknesses in the study, however, prevent the findings from being considered as definitive and conclusive. These weaknesses relate primarily to research design and specific procedures.

Some doubts can be raised as to the use of the 3x2 contingency table and chi-square techniques, and the relatively small sample used in the study. Writers of such standard statistics and research texts as Siegel (1956), Garrett (1958), Tait (1965), and Kerlinger (1965) argue that when using a 3x2 table, an expected frequency of five for each cell is needed in at least 80 percent of the cells. In the six cells of the contingency table above, only three cells (50 percent) have an expected frequency of five or more. To strengthen the study, the author could have tried to obtain more subjects, or reclassify home environments into only two categories. The non-parametric Fisher exact probability test seems more appropriate for the design because of the small sample used and the type of population tested.

The study has noticeable omissions which will prevent the reader from obtaining a full understanding of the research procedures used. The most serious omission pertains to reporting what techniques were used in classifying home environments as musical, average, or unmusical. The author used extreme care in setting up criteria for classifying the students as musical or unmusical, and these procedures are carefully detailed. However, nothing in the study is said about the criteria adopted in advance for categorizing home musical environments although characteristics of the types of environments are given. One can only wonder how the investigator was able to conclude that only four of the thirty home environments were musical. The resulting data raises several interesting questions. Are the percentages found in the Shelton study representative of the population as a whole? Are only 13 percent of American home environments musical? Are 50 percent unmusical? How do these figures vary according to socioeconomic levels, education, and region of the country? The lack of data concerning the procedures used for classifying home musical environments prevents a researcher from replicating the procedures to compare findings on the incidence of musical and unmusical homes in a given community.

Another omission in the report is a lack of information of the interviewing techniques used. Once the subjects were selected, the writer simply states that "(he) went into the home of each subject and interviewed the parents and others in the family to determine as thoroughly as possible what the musical environment had been previous to the child's entering first grade." Were all the parents receptive to disclosing information about their homes and the upbringing of their children? How objective were the parents? Were there any problems in using the interviewing technique? The researcher's obligation to provide enough data to the reader for possible replication of the study has not been fulfilled in this case.

The writer took care to provide the three teachers who selected the thirty students with suggested points for evaluating and classifying the children as being musical or unmusical. Despite this effort, there seems to be less than rigid control of the teacher variable in student selection. Some students, especially young children, respond very differently to one teacher-type than to another. A child may be quite inhibited and appear to be unmusical to one teacher, but may "blossom forth" with another teacher. It would have been wise for the investigator to have developed some type of evaluation device which could double-check the three teachers' perceptions of the students as being musical or unmusical. The reviewer found no evidence in the report which shows that the investigator had any contact with the thirty students to ascertain the validity of the teachers' classification of the musical and unmusical children.

A thorough and informative review of the literature is provided, with a wealth of material cited for the person interested in previous research on music for young children. The investigator correctly points out that most studies of musical responses in young children have used the ability to match pitch with the voice as the most important element in the evaluation of musical response. In fact, musical ability in several studies has been virtually equated with the child's ability to sing. Shelton affirms the need to develop measurement devices to include many aspects of musical response. He notes the critical need for research investigating children's rhythmic responses, and the need to determine what specific factors influence the child's sensitivity to rhythm and his ability to respond rhythmically to music.

Shelton recognizes the importance of other factors beside home musical environment which might influence the musical responses of children. Indeed, the significant differences obtained in the study between musical and unmusical children on intelligence and readiness scores raise serious questions as to the cause-effect relationships between musical environment and musical response. Do certain factors in the home really influence musical response? Personality traits, maturational levels, and the socioeconomic level of the parents may interact with other heredity-environment factors to cause some students to be more musical than others. A more complex research design, aimed at discovering interactions between several independent variables on musical response, is indicated. Nevertheless, it is easy for us, as music educators, to readily accept the assumption that a variety of musical experiences for students outside of school will help students in musical achievement and response. Parents need to be encouraged to provide an atmosphere in which children are permitted to participate in many musical experiences. Further studies, with more rigid controls and sophistication than this one, are needed to determine to what extent particular types of experiences in the home influence the musical growth of our children.

Shugert, James M. An Experimental Investigation of Heterogeneous Class and Private Methods of Instruction with Beginning Instrumental Music Students. University of Illinois, Ed.D., 1969.
Reviewed by Robert F. Noble

PURPOSE

This investigation was partially a replication of a study by Waa, in 1965, with some control over some of the uncontrolled variables of Waa's study. Shugert's research evaluated the effects of class (both heterogeneous and homogeneous) and private methods of instruction on musical achievement and musical aptitude of instrumental beginners in the elementary school. Two basic questions were asked:

1. Will the musical aptitude and musical achievement test scores of students who receive instrumental music instruction differ (significantly) from the scores of students who do not receive instruction ?

2. Will the musical aptitude and musical achievement test scores of students who receive private instruction differ (significantly) from the scores of students who receive class instrumental instruction ?

Shugert further attempted to compare the aptitude and achievement of those with music instruction (either privately or in class) with that of those who did not receive any instruction. Nine additional subproblems were posited, among which were:

1. Will the band no-band variable . . . be reflected in the scores on the Watkins-Farnum Performance Scale when the scores are compared with the scores in Waa's investigation?

2. Will Watkins-Farnum scores of students . . . on Form A (practiced) differ (significantly) from scores on Form B (sightread) ?

3. Will the dropout rate of students taught by the experimental class lessons differ from that of students taught by private lessons?

4. What will be the degree and direction of change in attitude toward instrumental music of students in experimental and control instrumental groups?

HYPOTHESES

Two hypotheses were formulated, each given both as a research hypothesis and as a null hypothesis. Null hypotheses were:

1. There will be no significant differences (.05 level) in scores on tests of musical aptitude and musical achievement of students who receive instrumental instruction and those who do not, or students who receive instrumental instruction will score lower than those who do not.

2. There will be no significant difference (.05 level) in scores on tests of musical aptitude and musical achievement of students who receive private instruction and those who receive class instruction or students who receive private instruction will score lower than those who receive class instruction.

DESIGN

A variant of the Solomon Four-Group Design was used in this experiment. Due to a variety of difficulties (to be discussed later) after the experiment was initiated, a change from the original plan was made to the design which follows:

Group 1	O_1	X_1	O_2	(Instrumental)
Group 2		X_1	O_2	(Instrumental)
Group 3	O_1	X_2	O_2	(Instrumental)
Group 4		X_2	O_2	(Instrumental)
Group 5	O_1		O_2	(Instrumental)
Group 6			O_2	(Instrumental)
Group 7			O_2	(Non-Instrumental)

X_1 = private instruction X_2 = class instruction

Four variables were thus involved in the grouping plans: private lessons, heterogeneous band grouping, homogeneous band grouping, and no band exeprience. The design was changed to this one because, according to the investigator, "uncontrolled variables destroyed the (original) design."

The experiment was conducted in the public elementary schools of New Britain, Connecticut, by the investigator, two regular music teachers, and two part-time teachers. Pupils were blocked (in quartiles) on I.Q. within each group and received instruction for 13 weeks prior to the posttests. All the pupils were fourth-graders who had no previous instrumental experience. Classes varied in size from 5 to 7, and pupils were selected in pairs for private or class instruction. Three instruments selected for pre- and posttest measurements were the Seashore Measures of Musical Talents, the Farnum Music Notation Test, and the School Subject Rating Scale (the latter to determine attitudes toward general music and band instruction). All band students received instruction in a half-hour class or lesson once a week where the Taylor Band Fundamentals in Easy Steps was used for class instruction and the Breeze Easy by Kinyon-Anzalone for private lessons. There was a mortality from the original N = 219 to N = 123.

FINDINGS

Shugert used t tests throughout for analyses of differences between groups on the pre- and posttests. He found:

1. No significant differences at the .05 level on posttest scores for the Farnum and Seashore tests for instrumental and non-instrumental groups.

2. No significant differences at the .05 level on posttest scores for the Farnum and five of the Seashore tests for private instruction and class instruction groups.

3. Experimental private students were significantly superior to experimental class instruction groups at the .05 level on Forms A and B of the Watkins-Farnum Performance Scale.

4. There was no significant difference in pretest Farnum and Seashore test scores.

5. The teaching competency variable was identified as being most important.

6. There was no evidence of the Hawthorne effect; (however, some of the pupils in private lessons had been told by their parents or teachers that they were in a more favorable position).

7. Privately taught students scored higher than students taught in a mixed instrument class and in homogeneous instrument classes. Also of importance is that students in mixed instrument classes and homogeneous instrument classes did not differ significantly on Watkins-Farnum scale scores.

8. There was no significant difference at the .05 level between practiced Form A and sightread Form B of the Watkins-Farnum test.

CONCLUSIONS

Shugert listed several conclusions from his research. Of these, the following seem most significant:

1. Students with instrumental lessons did not score higher on the Farnum Music Notation Test than students who had no instrumental instruction.

2. Instrumental instruction did affect the Seashore test subscores.

3. Private instruction did apparently contribute to higher scores on the Watkins-Farnum test than did heterogeneous or like-instrument classes. The investigator noted that this conclusion may not be generalized.

4. There was no significant difference on the practiced performance test than on the sightread test.

5. There was a lower dropout rate in classes than in private study.

CRITIQUE

Although all of us as teachers encourage students toward experimental research, because experimentation is our best qualitative analysis toward new and better practice, it has two major requisites which commonly get the researcher into troubles: (1) it must be most carefully pre-planned, and (2) the school situation, commonly inflexible for research purposes, must be somewhat predictable. Shugert appeared to have difficulty on both counts. The research design had to be changed after the experiment was underway due to a number of factors: students not starting who had been expected to start, unequal starting points, private teaching taking more time than anticipated, teachers not teaching as instructed, and others. Because of the instability of such factors, both external and internal validity seem to have been impaired, and generalization appears almost impossible.

For this experiment, one posttest-- the Watkins-Farnum test-- seems to have been a biased instrument for the following reasons:

1. Several writers have indicated that group instruction classes (particularly heterogeneous classes) develop not only skills of execution but also ensemble skills : balance, precision, vertical intonation, and the like. The Watkins-Farnum test does not measure these.

2. The Watkins-Farnum test does not test all instruments equally over this initial learning period. The enumerated subtests for brass instruments, saxophones, and percussion (except for rolls) somewhat approximate the tessitura learned in most instruction books during this period, while those for clarinet, flute, oboe, and bassoon go into a great deal of notation and fingerings not experienced at this level of instruction.

3. In spite of its high coefficients of reliability and validity, evaluation of results for any one individual seem quite subjective (as Shugert also indicated).

Although the investigator indicated that the teacher variable was extremely important, he had no control over this, although evaluation devices exist. Some of the teachers who worked with heterogeneous classes had never taught this approach before and/or were doubtful of its probable success. No stipulations were made as to how teachers were to teach, so there was probably a great variety in methodology and even in time length of classes. It is possible that reported differences on the posttest instruments could have been due, at least in some measure, to this variable.

This reviewer would question Shugert's dependence on t tests to show differences between groups. A major flaw with the t test is that it does not show interactions, some of which might be shown with multiple regression analysis or multiple covariance holding some factor constant.

Finally, one wonders if the sample was an adequate sample for generalization purposes. Classes made up of five or six fourth-grade pupils each, meeting only one half-hour period per week, playing two to six different instruments, may or may not be typical of others in this country.

The mortality percentage seemed unusually high, with only 123 out of the initial 219 completing the experimental period. Dropouts varied from 19 percent to 50 percent among the different classes. This reviewer is not aware of the percentage nationally, but dropouts exceeding 10 percent have been seen as a matter of real concern.

While deficiencies in this research have been pointed out, one could as easily laud some very excellent items. Shugert made a strong attempt to eliminate the practice effect from pretest to posttest by the design he used and to eliminate the Hawthorne effect by posttesting all subjects. Since randomization was almost impossible to attain, he made some shifts in groups to provide some equation on pre-experimental measures. He made no attempt to "cover up" deficiencies in the experiment but thoroughly and honestly reported inequities throughout the study. Conclusions did not claim more than the study could support, and even here he made some challenges to the generalizability of them. The thesis has the value of pointing out the extraordinary difficulties encountered in experimental research.

It is also refreshing to an adviser of research studies to note that Shugert writes extremely well, without the monotonous phraseology common in many research studies, and with excellent use of English.

Skornicka, Joseph E. The Function of Time and Rhythm in Instrumental Music Reading. Oregon State College, Ed.D., 1958. Order No. 58-3059.
Reviewed by Alan H. Drake

Teaching young music students to read music has always been a necessary goal in any instrumental music program. To find the better methods of teaching this skill has been the subject of research by musicians for years. Little is known as to how the human mind and body actually learn to respond to notated rhythm. By pinpointing various techniques and determining their effectiveness, however, a body of knowledge may someday be available which may remove some of the mystery surrounding this essential part of music training. Skornicka, in a comparative study of teaching methods, attempted to isolate one factor in the early training of instrumental students to determine whether a different approach might gain better results than the more traditional one.

METHODS AND PROCEDURES

In the school year 1955-1956, eleven Oregon schools were chosen to supply the subjects in the study. Beginning wind and percussion students from the fourth through the eighth grades comprised the experimental groups of 77 subjects and the control groups of 72 subjects. Over three-fourths of the subjects were in the fourth and fifth grades. The regular instrumental teachers in the schools taught the classes, but Skornicka conducted the first two orientation rehearsals with the experimental groups. The essential difference between the two methods of instruction was in the type of rhythms selected for the beginning stages of instruction. The control groups were taught with the conventional method books that had been in use in the various schools. All of these started the student with whole notes and whole rests, moving from them into half and quarter notes and rests. The experimental groups were taught with a method that started with quarter notes and rests, combined with foot tapping. The method then proceeded to half notes and whole notes. It was not stated in the study what method was used, but this reviewer would guess that it was the Boosey and Hawkes Band Method by Skornicka and Bergeim, 1947.

The groups tested in the beginning were given the Drake Music Aptitude Test which indicated that there was no significant difference between the groups in musical ability. Three other tests were given at various times during the training which encompassed most of the school year. The first two reading tests were composed by Skornicka, and the third was the Watkins-Farnum Performance Scale. The results of the three tests indicated in each testing that there was a significant difference in test scores between the two groups, with the experimental group receiving higher scores each time. The statistic used was the critical ratio, the CR being defined as the difference of the means of two distributions divided by the standard deviation of the difference.

THE HYPOTHESIS

The hypothesis was "that an early and constant emphasis on time and rhythm will significantly improve instrumental music reading" (p. 2). The "emphasis on time and rhythm" was defined as "the playing of quarter notes from the beginning of training, accompanied by the tapping of the foot as the bodily movement that represented the physical response" (p. 3).

CONCLUSIONS

Conclusions made as a result of the testing data included:

1. The method of instruction that emphasized time and rhythm in early training of beginning instrumental students developed more competent music reading than methods that did not provide this emphasis.

2. The initial and subsequent differences in the music reading abilities of the experimental and control groups in the study were due to the difference in the methods of training.

CRITIQUE

Skornicka presented his study in a clear, well-organized fashion. The thesis of the study, of course, was the rationale behind the development of the Boosey and Hawkes Band Method. Skornicka no doubt wished to produce an experimental study which would prove the validity of his thesis. This study concludes that at least in the groups used, the experimental method was superior in helping young players in their first year of instruction read notated rhythms with more accuracy. The use of the quarter note seems such a logical way to proceed that this reviewer is surprised that twenty-four years after the publication of the Boosey and Hawkes Band Method, no other major method book has utilized the same approach. Personal experience with the method netted excellent results with young students but it was found to demand more time, patience, and concentration which might explain the fact that the method was never as widely used as some of the other more conventional methods.

The most natural danger to the validity of the study is the bias of the researcher in favor of his hypothesis. Nowhere in the study, however, is this bias shown to affect the testing or statistical results. Factors that might weaken the validity of the study are: (1) the subjective method of testing which relied on the tester to make subjective judgments on the spot as to the accuracy of the music being performed; (2) no attempt to equalize any differences which might occur because of the type of instrument played.

The study is a fine contribution to a most important area still in need of much additional research.

Slagle, Harold Clayton. An Investigation of the Effect of Seven Methods of Instruction on the Musical Achievement of Elementary Education Majors. University of Illinois, Ed.D., 1967.
Order No. 68-8226.
Reviewed by William T. Young

INTRODUCTION

Classroom teachers, in increasing numbers, are being asked to teach elementary music throughout the nation. Assistance is sometimes provided by a special music teacher, but often the entire musical experience offered the children in public school is the sole responsibility of the elementary teacher. In those classrooms where the teacher possesses sufficient background, a satisfactory music program can result. Unfortunately, there are numerous instances in which the classroom teacher is inadequately prepared to teach music. In these cases the children are denied a meaningful musical experience and the music program, as a whole, is made to suffer. Although many music educators deplore this state of affairs, there appears to be little, if any, indication that the situation can be altered in the immediate future.

In general, those institutions charged with the training of elementary classroom teachers afford a somewhat limited preparation in music. This is especially true for those students who enter college with a minimum of previous music study. Frequently there are an insufficient number of music courses designed for these students and, in some instances, those offered are regarded as ineffectual by public school teachers and administrators. Since it appears that the classroom teacher must continue in her present capacity as music teacher, it becomes of importance to discover ways of providing her with the broadest possible base of musical experience and understanding. One answer to the problem might be to offer additional courses in music for the classroom teacher, but this is rarely possible in the already overcrowded curricula of most schools. Another and perhaps more realistic approach is to upgrade those courses now offered in order to increase their effectiveness. The present study was designed to provide information pertinent to the latter solution.

THE STUDY

The purpose of this investigation was to evaluate the effect on musical achievement of seven separate methods of instruction in music classes for elementary teachers. The measure of music achievement employed in the study was the Snyder Knuth Music Achievement Test.[1] The following specific questions were considered by the investigator:

1. What is the effect of each of the seven methods in changing students' attitudes toward music?
2. Is one method of instruction superior as measured by selected music achievement tests?
3. Is there evidence of difference in retention of facts and skills over a period of time in any of the seven methods?
4. Is there evidence of latent learning over a period of time in any of the seven methods?
5. What is the effect on skill development in any of the seven methods as measured by the skill tests?
6. What is the effect of previous instrumental instruction on the results for each of the seven methods?
7. What is the correlation between the Snyder Knuth Music Achievement Test, Form A and the Elementary Music Achievement Tests 1 and 2?

The study was conducted at Middle Tennessee State University. The students who participated in the study were those who enrolled in the second semester of Fundamentals of Music (Music 122) in the Spring of 1966. Two students withdrew from the course during the semester, and the data for five additional students were incomplete and could not be used, resulting in a final N of 144. The registration procedure at this particular college prohibited random selection of the students for each experimental group, although the method by which each group was taught was randomly determined.

Seven classes were formed and the same basic course content was presented in each section: key signatures, meter signatures, clef signs, major and minor scales, triads, music vocabulary, simple form structure, and elementary aural skills. The primary difference between the various classes was the method employed to present the material. The following paragraphs summarize the make-up of the groups and the teaching process employed with each.

"Group 1: (Method 4, 'Combination'). Each class period was divided between lecture-discussion of the basic fundamentals and the development of piano, ukulele, and vocal skills. The piano-singing method was employed during the first four weeks; the ukulele-singing method during the following four weeks; and the singing method the remaining five weeks. The class met at 9 A.M. and was taught by Instructor 'A' (a string specialist). The group had an N = 24 at the beginning of the semester and N = 23 at the conclusion.

"Group 2: (Method 2, 'Singing'). Each class period was divided equally between lecture-discussion of the basic fundamentals and the development of singing skills. Instruction was provided through a vocal context without instrumental support. The class learned to sing two-part harmony by separating into two groups; one group singing the melody, the other the root of the chord. Groups were interchanged to give each student experience performing both parts. This class met at 12 Noon and was taught by Instructor 'C' (music education, vocal specialist). Initial N = 19; final N = 18.

"Group 3: (Method 7, 'Traditional'). The procedure used in this class consisted of a lecture-discussion of the basic course material with occasional performance of songs on flutophone and/or piano. Approximately 80 percent of the class time was devoted to lecture, while the remainder was used for instrumental playing. This group met at 12 Noon twice weekly and was taught by Instructor 'A' (string specialist). The initial and final number in this group was 15.

"Group 4: (Method 3, 'Piano'). Each class period for this group was divided equally between lecture-discussion on the basic course content and piano-singing experiences. Students were taught to play simple right hand melodies in both major and minor keys with appropriate chords in the left hand. They also sang the melody while they played. The class met at 3 P.M. twice weekly and was taught by Instructor 'B' (piano specialist). The initial and final N for this group was 23.

"Group 5: (Method 3, 'Ukulele'). The procedure for this class was lecture-discussion of the basic material and instruction in singing and playing the ukulele in equal amounts. The students in this group were taught to sing melodies while they played underlying chordal harmonies on the ukulele. This class met at 8 A.M. twice weekly and was taught by Instructor "A" (string specialist). Initial N = 24; final N = 23.

"Group 6: (Method 1, 'Lecture-discussion'). The procedure used in this class consisted of lecture-discussion of the basic material only, with no direct experience in performance. Class time was spent in listening to the lecture, asking and answering questions, and reviewing the material. Any remaining time was spent in observing the instructor in demonstrations of the material being studied. This class met at 12 Noon and was under the direction of Instructor 'A' (string specialist). Initial N = 23; final N = 19.

"Group 7: (Method 6, 'Flutophone'). In addition to the lecture-discussion of the basic material, the students in this group studied the flutophone. Two-part harmony was explored by dividing the class into two groups, one of which played the melody while the other played the roots of the chords. Most of these students had some previous experience with the flutophone, as had most of the students who participated in this study. It was a requirement of the preceding semester's work. This class met at 3 P.M. twice weekly and was taught by Instructor 'C' (music education, vocal specialist). Initial N = 23; final N = 23."

All of the classes wrote the same number of exercises and were given the same number of tests. The data for this study were obtained during the second semester of the required two-semester music fundamentals course. During the preceding semester, the students were taught the names of the lines and spaces, clef signs, major scales, key signatures, meter signatures, tonic and dominant chords, and an elementary music vocabulary. Some also received instruction in singing and playing simple cadences at the piano. At the end of the second semester (the one in which this study was conducted), the students were expected to be able to sing simple melodies and write basic chords to any given melody.

All groups were pretested with the Snyder Knuth Music Achievement Test, Form A, in order to determine the musical knowledge and ability of each student before the study was initiated. The seven groups were then exposed to a structured course of study devised by the investigator. The twenty-five lesson plans used during the semester are included as part of the appendix section. In addition to the pretest, the following examinations were given to all groups:

1. Midterm examination, devised by the investigator and including material covered in the first half of the semester.

2. Posttest Snyder Knuth Music Achivement Test, Form A.

3. Elementary Music Achievement Tests 1 and 2.

4. Final Examination, devised by the investigator in cooperation with the other instructors in the study.

The classroom procedures, attitude and cooperation of the instructors, classroom facilities, and other aspects of the training of the students are clearly presented in detail in Chapter III of Dr. Slagle's dissertation and need not be repeated here.

RESULTS OF THE STUDY

1. Pre- and posttest comparisons for scores on the Snyder Knuth Music Achievement Test, Form A: The mean scores on the pre- and posttests and the net gain for each group are shown in Table 1. Groups 1 (combination), 2 (singing), and 3 (traditional) were the highest on

both the pre- and posttest but were the lowest in net improvement. The greatest gain was demonstrated by Group 4 (piano) with Groups 6 (lecture-discussion), 7 (flutophone), and 5 (ukulele) following in that order.

TABLE 1

PRE- AND POSTTEST MEAN SCORES AND NET GAIN FOR EACH OF THE SEVEN GROUPS

Group	Method of Instruction	Pretest Mean	Pretest Rank	Posttest Mean	Posttest Rank	Net Gain Mean	Net Gain Rank
1	Combination (Method 4)	67.1	3rd	77.4	3rd	10.3	5th
2	Singing (Method 2)	71.5	2nd	79.8	2nd	8.3	7th
3	Traditional (Method 7)	72.8	1st	82.5	1st	9.7	6th
4	Piano (Method 3)	64.9	4th	77.2	4th	12.3	1st
5	Ukulele (Method 5)	64.7	5th	75.4	5th	10.7	4th
6	Lecture-discussion (Method 1)	59.5	7th	71.6	6th	12.1	2nd
7	Flutophone (Method 6)	60.1	6th	71.1	7th	11.0	3rd

The Elementary Music Achievement Tests were also administered after the instruction period. Test 1 measures pitch discrimination and tonal memory, while Test 2 measures learned skills such as music reading. Groups 4 (piano), 5 (ukulele), and 1 (combination) ranked highest in the first test, while Groups 3 (traditional), 2 (singing), and 4 (combination) ranked highest in the second test.

Significance tests were then applied to the data to determine if any method used in the study appeared to be superior to the others. With reference to posttest scores, it was found that the methods used for groups 1 (combination), 2 (singing), 5 (ukulele), 6 (lecture-discussion) and 7 (flutophone) were apparently not significantly superior to any other method. However, group 3 (traditional) achieved superiority in cognitive learning but not in skills. Group 4 (piano) achieved a significant superiority on the posttest over three other methods in both skill and cognitive learning. The significance level used for these tests was .10.

2. Post-experiment attitude of the students: Scores for this aspect were obtained near the conclusion of the training program. These scores were compared with a similar set of pre-experiment attitude scores in order to determine if a change in student attitude had occurred. Each student was asked to rank his classes in order of preference from 1 through 7. The comparison revealed that the attitude of all groups, with the exception of Group 2 (singing), dropped near the end of the experiment. This could be interpreted as a growing dislike of music as it was taught in these classes or that the students developed more favorable attitudes toward other classes which exceeded their opinions of the music classes. Perhaps associated with the slight rise in attitude toward music class shown by the students of Group 2 (singing) is the fact that they attained the highest mean score on the midterm and final examinations. In this respect, they may have felt more successful and thus evidenced a more favorable attitude toward music.

3. Latent learning: In order to determine the amount of latent learning and skill retention of the seven groups over a period of time, the students participating in the study were asked to retake Parts 1 and 3 of the Snyder Knuth test. Of the original 144 students, only 51 voluntarily submitted to the retest. After a four month time period, it was found that the groups taught by the piano, ukulele, and lecture-discussion methods improved somewhat in their ability to read notation while the others lost some of their original ability. The largest loss in notational reading ability occurred in the groups taught by the traditional and flutophone methods. On the other hand, all but one group showed losses in the ability to interpret musical symbols. The group taught by the singing method showed a slight increase in this respect (1.0%). The group taught by the flutophone method showed the largest loss in ability to interpret musical symbols; the same group had shown the largest loss in notational reading ability.

On the basis of the data presented in the study, the investigator made the following conclusions:

> Two methods appear to hold some superiority over other methods of instruction in teaching music fundamentals to elementary education majors. These are the piano method, which includes singing and playing experience; and the traditional method, which is primarily lecture-discussion with some playing experience. Other methods of instruction ...do not appear to be as promising as the first two... (p. 170)

CRITIQUE

This study seems to this reviewer to be appropriate, important and generally well-done under the circumstances. The rationale behind the study, the procedures used, testing instruments employed, persons involved in the study, and the general environment within which the investigation was conducted were all clearly and adequately explained. There were a few errors in the manuscript, probably due to typist mistakes, such as the use of the word bases where basis was intended, and the listing of a score of 32.53 in Table 29 rather than the correct score of 82.53. Inaccuracies such as these, while disturbing, should not impede the careful reader.

Of a more serious nature is the omission of a footnote or bibliographic reference to the Snyder Knuth Music Achievement Test. A substantial portion of the results reported in the study were derived from this test, and the publisher and date of the instrument employed should have been included.

One confusing aspect was encountered. The investigator used seven groups of students and seven teaching methods but did not number them consistently. For example, Group 1 was taught by Method 4, Group 3 by Method 7, Group 4 by Method 3, and so on. Sometimes the investigator would discuss the results in terms of group designations and at other times employ the method numbers. No reason was apparent why both groups and methods could not have been assigned identical numbers. This procedure would have improved continuity and reduced the chances for interpreting the results incorrectly.

Another point of concern was the use of the .10 level of significance. There is always the possibility that a research study of this type will form the basis for subsequent decisions which, in turn, might have far-reaching ramifications. In this regard, it would appear advisable to use a level of at most .05 in order to avoid misleading conclusions. The investigator defended his choice but, in fact, little difference between the effects of the various teaching methods would have been observed had a stricter level of significance been employed.

While this study was well-done and adequately reported, it should be kept in mind that the results were, for the most, inconclusive. There were several variables over which the investigator had little control, such as, the amount of musical experience each student possessed prior to the study, the inability of the investigator to randomly assign students to classes, the attitude and personality of the instructors involved in the study, class size, the lack of an achievement test for directly measuring the skills taught in the classes, the unsatisfactory ukuleles employed in Group 5 which could not be kept in tune, and the insufficient number of pianos available in some instances. In all fairness to the investigator, however, it should be noted that these and other handicaps encountered during the course of the study were quite adequately reported.

One final question might be raised. In the beginning of his thesis, the investigator brought out the fact that elementary teachers were being asked to teach music in increasing numbers. He gave this as one of the primary reasons for initiating the study: "to determine a more effective method for the musical development of elementary education students..." (p. 2). To accomplish this aim, a full year was spent on such things as learning staff names, clef signs, scales, keys, etc. While few people would deny the importance of "music fundamental" and the musical growth and development of the teacher, it would seem of equal importance to provide some instruction concerning the musical development of the children with whom these future teachers will someday be in contact. The semester involved in this study was the final one of a two-semester required sequence, but no mention was made in the lesson plans of the vocal range and capability of the child voice, sources of song literature, and other practical aspects of teaching children. If indeed it is our intention to improve the capabilities of the elementary teacher to conduct music classes in a meaningful manner, it seems logical that at least some time would be spent on the practical aspects of teaching music to children, rather than the almost total reliance on the theoretical development of the teacher as was apparently done in this case.

REFERENCES

[1] Alice Snyder Knuth, Snyder Knuth Music Achievement Test, Form A. San Francisco, California: Creative Arts Research Associates, 1965.

[2] Richard Colwell, Elementary Music Achievement Tests, Chicago: Follett Publishing Company, 1965.

Slatin, Sonia. The Theories of Heinrich Schenker in Perspective.
Columbia University, 1967. Order number 67-15,521.
Reviewed by Peter Bergquist

Heinrich Schenker (1867-1935) is without doubt one of the most significant figures in music theory during the twentieth century, a figure whose significance is far from exhausted thirty years after his death. His renewed emphasis on linear elements and his conception of structural levels are fundamental analytical concepts, necessary correctives to the outworn notion that analysis consists of finding roots and labelling chords. The validity of his insights into musical structure is attested by their continuous penetration into common theoretical discourse, even among those who have no notion that they are dependent on Schenker and in fact oppose what they believe to be Schenker's ideas. His work is in fact so urgently relevant to the reforms presently needed in the teaching of musicianship and analysis, i.e., music theory, that anyone at all concerned with education in this area at any level owes it to themselves and their students to become acquainted with Schenker's work and use it to make such education more effective and more relevant to music as it is performed and experienced.

A thorough study of Schenker's writings is thus long overdue, in order to give credit where credit is due, to separate fact from misconception, and to present a comprehensive account of Schenker's theories and the course of their development. Writing about Schenker's theories has appeared heretofore in the form of relatively brief surveys, such as Allen Forte's excellent article in Journal of Music Theory, or in books which are based on Schenker but go beyond him in some respects, notably Felix Salzer's Structural Hearing. As valuable and illuminating as Salzer's own insights are, one may very properly want to know what Schenker himself said and how he said it; the present study fills this want most adequately indeed.

The dissertation is laid out in accordance with the development which took place in Schenker's ideas from his earlier to his later writings. The first chapter establishes for the first time some essential biographical facts. The second chapter surveys the state of music theory at the time Schenker began his work. He was evidently motivated strongly by the prevalent breach between theory and practice when he wrote. He held that composers around the turn of the century were moving towards anarchy because of the dominance in their training of inadequate theoretical concepts which stemmed largely from Rameau. The attempt to formulate theories in accordance with musical experience, as opposed to Rameau's pseudo-scientific speculation, was evidently a prime motivation for Schenker's lifelong study and writing.

Section II of Slatin's study, comprising Chapters 3 and 4, deals with the concept of the scale step (Stufe) which appears in Schenker's earlier writings, and which was later modified and superseded by more comprehensive formulations. It already represented a significant attempt to break with the traditional indiscriminate labeling of chords and make meaningful distinctions according to function, distinctions which were pursued and refined further in his later work. The later work is discussed in great detail in Section III, Chapters 5-9. The theories of the Urlinie and Ursatz, the melodic skeleton and its bass support which branch out into the numerous levels of structure which organize the manifold melodic and chordal details of the composition, are the essential subject of this section. The chapters are divided into discussions of the structural levels of background, middle ground, and foreground, and prolongational techniques of chord and melody which bring these levels into being. The revisions and refinements which continue through the later writings are traced and explained at length. Schenker's complex and occasionally confusing terminology is discussed and explained fully. Many terms are left untranslated for want of a compact and exact equivalent in English. Some further attempt to find equivalents might have been helpful, although this may more properly be the work of a translator than a commentator. Slatin's detailed discussions will be most helpful to readers of the originals and to future translators.

Chapters 10 and 11 consider problems of rhythm and aesthetics as Schenker relates them to his analytical concepts. These relatively short chapters point out much of potential use to the present active exploration in these areas. Section IV, comprising Chapter 12, considers criticisms of Schenker's work and evaluates his contributions to musical thought. This is a particularly valuable portion of the study. A number of common misconceptions and misunderstandings are successfully rebutted. Among these may be mentioned the notion that Schenker's limited musical preferences invalidate his theories. Despite his restricted tastes, his analytic insights into the music he did care for are unparalleled in their clarity and scope, and the validity of his procedures for much music other than what he liked has been urged persuasively by other writers. In short, this is an irrelevant objection.

The notion that Schenker's concepts result in an essentially static view of musical process is convincingly refuted. Slatin points out that this view, urged by Leonard B. Meyer among others, appears to rest on a conception of musical process that sees only from one musical event to another which follows it very closely, in contrast to Schenker's own viewpoint, which comprehends at once details and their long range relationships. This view further misunderstands the Schenkerian concept of prolongation in assuming that if a sonority's structural value is prolonged, the music ceases to move. Motion most certainly continues, even if it is shown to be organized around and to circle in some sense around a particular sonorous referent. Slatin also lays to rest the idea that to discover the most fundamental architectonic levels is the basic goal of Schenkerian analysis, whereas the goal is to discover the relationship of all levels of structure one to another, from basic structure to smallest detail, in order better to understand the finished composition. She observes that Schenker's own truculence, his sometimes dense prose, his nationalism, his philosophical flights, all can obscure what he has to say and alienate the reader; the analytic insights remain nonetheless.

Schenker's relationship to other theorists is carefully explored, especially his kinship with and dependence on the thoroughbass theorists of the 17th and 18th centures, notably C.P.E. Bach, whom he revered. Slatin also points out unexpected similarities between some aspects of the work of Schenker and that of Simon Sechter, with whom Bruckner studied. His differences with Schoenberg are documented at numerous points. Although Schenker's musical preferences were conservative, his theoretical ideas were paradoxically much more progressive and fruitful for the future than those of Schoenberg. Schenker's influence on numerous other theorists of the twentieth century, Hindemith among them, is amply documented.

Slatin is basically sympathetic to Schenker's ideas, but his inconsistencies and weaknesses are not overlooked. Instances of overspeculation and excessively rigid formulations are pointed out as they arise in the discussion. More fundamental questions, such as the necessity for an Urlinie to descend invariably, are also considered. The author is evidently in sympathy with attempts to extend Schenker's ideas to music other than that which he himself favored, though such expressions of opinion are carefully separated from the commentary on Schenker itself. Her admiration for Schenker is not uncritical, but the criticism is applied in accordance with Schenker's own high standards, not those of an uncomprehending theorist of the old school. To point out obvious flaws and inconsistencies does not lessen Schenker's achievement.

The same observation may be made of Slatin's study itself. It is quite admirable in many ways, not the least of which is being the first to tackle this difficult subject with such thoroughness. It might reasonably be objected that the dissertation is too long. The same coverage might well have been possible in less space; the great bulk of the work may discourage some readers who might find it helpful. The proofreading is quite careless in places; most of the errors are minor, but a few require careful rereading to be clarified. The format is not ideal. The dissertation would be impossible to read on microfilm, what with the necessity to refer to notes at the end of each chapter and examples in the appendix. The examples, largely reproduced from Schenker's own analytical sketches, are unfortunately reproduced poorly in the Xerox copy of the dissertation. Reference to the originals would be essential, but not always easy.

Slatin's study can serve very well to present Schenker's work to those unacquainted with it. She does not appear to have introduced any essential errors of fact or interpretation, though others could offer alternative observations on some points. It is odd that she omits any mention of Schenker's edition of the thirty-two Beethoven piano sonatas, though she of course refers several times to the annotated editions of Op. 101, 109, 110, and 111. She also has apparently overlooked the monograph on Beethoven's Symphony V. Despite these omissions, her work is essentially quite reliable. Since the original is complex, the discussion of it is also complex, but potential unclarities are vastly reduced by the clarification of Schenker's terminology. This and the responses to criticisms seem especially valuable. The general exposition of Schenker's ideas will require close study to extract all it contains. It is such a thorough job that any future study of Schenker will be indebted to it, and there seems little likelihood of its being superseded in the foreseeable future.

Stebbins, Robert Alan. The Jazz Community: The Sociology of a Musical Sub-Culture. University of Minnesota, Ph.D., 1964. Order No. 66-1690.
Reviewed by Simon V. Anderson

THE STUDY

Robert Alan Stebbins' dissertation, "The Jazz Community: The Sociology of a Musical Sub-Culture," investigates two hypotheses: (1) jazz musicians as an occupational group stand lower in status, class, and power than do commercial musicians in the general community; but (2) jazz musicians stand higher in status, class, and power than do commercial musicians within the sub-cultural community (the music profession).

Part I, Background and Theory, draws on the works of sociologists Weber, Silbermann, Becker, Cameron, Reisman, and Martindale (Stebbins' adviser) to bring the problem into some kind of sociological focus; and it draws on jazz chroniclers Ulanov, Hentoff, Stearns, and on Stebbins' previous research, a master's thesis ("The Minneapolis Jazz Community: The Conflict between Musical and Commercial Values," 1962), to get at a workable delimitation of the "core and peripheral institutions in the jazz community," Chapter 3 of Part I describes Stebbins' use of what Greenwood called an ex-post facto experimental design. Later, though, Stebbins allows that "while our model is similar to that of Greenwood's, it is more accurately described as a comparative study design."

The study is more precisely, then, a comparison of two groups: a group of jazz musicians on one hand, and a group of commercial musicians on the other hand. From his own first-hand knowledge as a practicing jazz musician, Stebbins casts up a list of tentative members for each group, and then checks and re-checks his opinion against the opinions of fellow musicians until he finally comes up with reasonable and firm categories. Sixty-seven male musicians were involved as respondents in one manner or another before the entire study was concluded. His method of data collection, thereafter, was the traditional instrument--a questionnaire interview. Ten musicians were involved in the pretest and validation of scales, and 40 musicians were involved in the main study. "Since only minor changes resulted from the pretest," Stebbins included those 10 in the main study, giving a final statistical sample of 50 respondents--25 jazz musicians and 25 commercial musicians. There were 8 Black musicians among the jazz group, and no Black musicians among the commercial group.

Class, status, and power are determined in typically predictable questions: (1) class--by questions on the location of the home or apartment, employment and income, size and cost of automobiles owned, color or black-and-white television sets, and similar marks of class level; (2) status--by questions on marriage, the moral issues of free love, and the use of narcotics; and (3) power--by questions on membership in organizations, political behavior, friends, access to lawyers, and similar signs of power. These three concepts--class, status, and power--derive from Max Weber's theories as translated and interpreted by Gerth and Mills in 1958.

Part II, Chapter 4 and 5, digs deep into the historical background of jazz in Minneapolis, and details the existing (1964) ecology ("the spatial or locational aspects of human communities," p. 131) and demography ("the size and characteristics of the population of a given community," p. 138) of the jazz community of Minneapolis.

Part III offers 66 tables which admirably document Stebbins' careful attention to all the proper procedures of statistical reporting. He has made every reasonable effort to report only what the evidence would seem to declare, to make allowances for error, and to use adequate statistical treatment. Stebbins' hypotheses were confirmed by his research.

Part IV consists of summaries and conclusions which reaffirm and collect in one spot the various remarks scattered throughout the narrative up to this point. Part IV closes with "a final note of the jazz audience," largely a presentation of Reisman's thoughts on the differences between those who listen to popular music as opposed to those who listen to jazz--the jazz lovers being much more anti-social, non-conforming, and somewhat alienated from the wide majority of middle-class society. Stebbins observes that Reisman's ideas apply as directly to those who produce jazz and popular music as to those who consume it.

Appendix A, "Instructions Sent to the Judges Participating in the Census of Jazz Musicians," Appendix B, "The Questionnaire," and Appendix C, "Results of the Pretest and Validation of the Scales," contain no surprises. The appendices show precisely what their titles indicate.

The Bibliography is brief. Stebbins offers only those books and articles which brought some real weight to bear on his research project.

CRITIQUE

Stebbins succeeds in a convincing battery of statistical tables and analyses which, in general, confirm his opening hypotheses. The tables are easy to read, clearly presented, and accurately designated and interpreted. The narrative hangs together between and among the quantitative material in a comfortable, readable style. All procedures seem to derive conveniently out of the data, and there are no bold leaps to untenable conclusions. This is a solid, skilled job.

Certain passages are much better than others. Stebbins is at his best when he describes the psychosocial characteristics of his musicians. Chapter 2 and Chapter 3 are especially informative. His descriptions of "The Jazz Job," of "The Jam Session," "After Hours Social Life," and "Cliques," are brief, but complete and accurate. Many academicians give the facts, but fail to convey the spirit. Stebbins obviously speaks from first-hand experience. The result is a refreshingly precise and interesting discussion (Chapter 2, especially).

All factors considered, Stebbins has written a dissertation which abundantly supports his theory that "jazz musicians represent more than a mere marginal occupational category; they tend to work out a semibohemian way of life peculiarly adapted to the institutions of the larger metropolitan centers in which jazz culture flourishes."

Stoddard, Eugene M. Frances Elliott Clark: Her Life and Contributions to Music Education. Brigham Young University, Ph.D., 1968. Order No. 69-4180.
Reviewed by Robert E. Nye

This interesting study, which was written in Utah, was aided by the geographical coincidence of Frances Elliott Clark's having retired in Salt Lake City and her son's living there until his death in 1967. The researcher states that his study is limited by the fact that Mrs. Clark was not living when it was being written, having died in 1958 at the age of 98, and by the death of her son, John E. Clark, while it was in progress. However, the researcher's advantages in having the assistance of John Clark in much of his work and the availability of Mrs. Clark's papers are far more than most doctoral candidates have when they do studies such as this one. Although the thesis does not claim to present a complete report of Mrs. Clark's life but only those facts related to her influence on music education, the reader will find a sense of completeness about it that is satisfying.

The study is detailed (740 pages) and exceptionally well-written, thus standing as an example of historical research most complimentary to the writer and his advisor. The usual chapter concerning the historical background of the study is highly pertinent and interesting in its own right. While not original with the researcher, the inclusion of how the singing school constitutes the historical roots of contemporary music education, and the evolution of the singing school into the musical convention, normal institute, normal school, and conservatory, are helpful to those who desire to gain a background in the history of American music education. There are graduate students today who become confused as to exactly what music education is, and are sometimes mystified by persons who claim that there really "is no such thing" as music education as a separate branch of the world of music. The singing school was popularly supported, taught by persons drawn from the society in which they worked, its music was popular in nature in that it was usually of immediate social usefulness, and it produced its own body of music and textbooks. When these facts are combined with Mrs. Clark's statement on page 181 to the effect that before the formation of the Conference at Keokuk, Iowa, in 1907, music educators had no place to go (they were not accepted as missionaries of music by the professional musicians nor as educators by the intellectuals), one finds historical reasons why music education in the United States grew up as a separate, though related, branch of music. Music educators were compelled to go their own way, and they did this with confidence because they had public support. Their success is evidenced by the Music Educators National Conference today--the greatest professional music organization in the world.

Mrs. Clark said at the 1938 Conference that the **Conference** will live as long as "(1) our membership holds to the tenets of the faith of the founders, (2) those who are older stand as advisors in the old Keokuk spirit, (3) our makers of materials remember that the children must be guided by the highest and best that can be produced, (4) our sectional conferences serve their constituents in a spirit of unselfish devotion each with the other, and (5) our officers preserve that democracy of representative policy for the good of all."

The dissertation continues with a chapter on Mrs. Clark's early life. From incredibly adverse circumstances, she forged a new life in teaching music. A highly successful choral teacher at Ottumwa, Iowa, she had produced by 1900 a music history outline of thirty ten-minute talks which she gave prior to the choir rehearsal because she was convinced that performance was not enough; there had to be knowledge of music and music history also. Her girls' quartet, the Franciscans, was a school and community attraction, and the girls continued to sing together through four years of college. While supervisor of music at Milwaukee, Wisconsin, she discovered a new trend in phonograph recordings. It was to record good music. Heretofore, most recordings were in the line of novelty and humor, usually with only the speaking voice. She saw the educational implications at once, and as a result of her interest, the Victor Talking Machine Company asked her to create and organize its educational department in Camden, New Jersey. Mrs. Clark accepted this in a letter dated December 31, 1910. She was then 50 years old and began a new professional life as the music educator who did far more than any other to relate the phonograph to the classroom. Following a chapter on this work are others concerning her contributions and leadership, philosophies and teaching theories. Her many ideas included sending our musicians abroad in a cultural exchange for world peace; utilizing music as a safety valve in periods of unrest; returning to the ideas of the singing school and musical convention; holding festivals of music of the folk, by the folk, and for the folk; sensing that our primary need is spiritual; believing that faith in the power of righteousness points the way toward a rehabilitation of our old standards of plain living but high thinking; to educate is to draw out the powers of mind (not to pound something in); and that school not only prepares for life--it is life. In 1950 she stated that we had struggled so hard for a hundred years to put music into education that we had forgotten our dual responsibility of putting education into music. She was a pioneer advocate of early childhood education, believing that the first five years of a child's life were highly important to his musical development.

This reviewer's adverse comments about this fascinating document are few. One is that no mention is made about the inaccurate tone reproduction of the early non-electric recordings. Those Mrs. Clark heard in 1910 left much to be desired. Even ten years later, students could not learn from recordings what a good clarinet tone was like, for example. Another criticism is in some ways a compliment. Why cannot a biographical study such as this be written like a book, omitting the formal dissertation format of Stating the Problem, Questions to be Answered, Hypotheses to be Tested, Summary, Findings, and Conclusions? The researcher has written such a good book that the above academic formalities appear like barnacles on a ship's bottom or sand in otherwise smooth gears. Because this study will be in demand in most libraries, could University Microfilms produce a more durable binding?

Every student of music education should have access to this dissertation. It is a highly valuable contribution to the history of our profession.

Sutherland, Arthur Ray. Essentials of Internal Design and Arrangement of College and University Music Buildings. East Texas State University, 1966. Order number 67-1537.
Reviewed by A. Oren Gould

Discussion

The purpose of the study was "to discover, evaluate, and rank pertinent essentials of internal design and arrangement for college and university music buildings." Names of all of the institutions participating in the study were found on the accredited list for 1964-65 of the National Council for the Accreditation of Teacher Education.

The study was limited to institutions in which (1) at least 60 percent of the music majors entered the teaching field, (2) seventy or more music majors and minors were currently enrolled in the institution, and (3) the school had had a building completed between the years 1955-65.

A three-pronged attack on the problem of determining desirable building facilities for music departments was launched. First, five institutions, East Texas State University, Stephen F. Austin State College, Northeast Louisiana State College, Southern Methodist University and North Texas State University located within 250 miles of Commerce, Texas, were selected for detailed personal observation and evaluation of their facilities for music. Second, effectiveness of existing music facilities was studied in other institutions by a mailed questionnaire survey. Third, expert opinons as to desirable, essential, and undesirable features of music buildings and rooms were obtained from a jury panel. This panel was composed of music administrators and subject-matter specialists primarily in the South representing the fields commonly found in the institutions studied. The remaining 386 institutions on the Accreditation list were mailed questionnaires of which 287 replied. Of these, sixty-two met the criteria established with 28 completing the questionnaire.

Data were gathered from the five participating institutions through personal interview. Sutherland was able to procure copies of the blueprints, photographs, and architectural floor plan drawings from each of the institutions which he compared with data gathered from questionnaires.

Chapter Two is a good discussion of related literature concerning the building of music facilities and rooms. Each item of construction is thoroughly discussed.

Chapter III discusses the method of procedure. The questionnaire was developed after a perusal of the literature and discussions with building architects and engineers. The information was categorized according to the following specialized areas common to music department facilities:

1. Over-all design and general features of the music building.
2. Administration suite.
3. Faculty studios and offices.
4. Practice rooms.
5. Classrooms.
6. Music library--record and score.
7. Assembly areas--recital halls, concert halls, and auditoriums.
8. Group rehearsal areas--choral, band, and orchestra.
9. Instrument storage.
10. Music libraries for organizations.

Thus, each specialty area in the music departments could answer the questionnaire section pertaining to it.

After the data were compiled, the questionnaires were submitted to a jury of music scholars to rate each area on a five point scale: from highly desirable to unrelated.

This study was not designed to be statistical. The author says, "This study was not intended to be a highly statistical one, fraught with impressive terms and figures meaningful to only an elite group of knowledgeable statisticians." (p. 81) The purpose was to tabulate the data in an objective way, to identify the most common practices and best practices applied in the internal design and arrangement of the music buildings.

Chapter IV is a discussion of the data compiled. Each area is discussed concerning the features of each for the music building. Some of the data are relatively meaningless as recommendations are made as to the average number of practice rooms, average number of studios and so forth. In his sample the respondents had an average enrollment of 299, median of 179 and mode of 90. (Having a mode with discrete replies from 28 institutions is highly unlikely and of course, meaningless.) An inspection of the institutions replying confirms that he has one large school and a large number of schools that must have more minors than music majors in order to have the minimum number of 70 students according to the latest NASM figures. Several of the institutions have only new additions to their buildings or happen to be housed in new buildings which were constructed for other purposes as well.

All features are considered under three categories, essential items in one-half or more buildings and not favored or refuted by faculty or judges, desirable were in less than one-half of the buildings but favored, and undesirable, in less than one-half and mildly tolerant or opposed or in a majority of the buildings and opposed.

In Chapter V, Summary, conclusions and recommendations, the author says, "Elements of internal design and arrangement which are essential to a given college and university building will depend upon the scope and nature of the programs to be housed, the philosophies and policies of the institution and department, the subject-matter areas more highly stressed, and concentrations of student enrollments among the different specializations." (p. 196) He further concludes that the music building should be thoroughly planned by the music staff in regard to every instructional and non-instructional activity which it will house. The written educational specifications should list a priority of building features according to the essential elements considered desirable but which might be considered optional. The architect should be expected to adhere to these specifications except when architectural principles dictate otherwise.

Thorough planning will have a direct relationship to the financial outlay of the building. Proper communication between the music educator and architect can result in a greater usefulness of the facilities.

The author's amended recommendations follow:

1. The questionnaire may be used as a checklist in the initial planning stages as an aid.
2. The jury rating scale may prove helpful in fathoming local faculty knowledge and personal preferences for features to be included.
3. A thorough study of existing facilities should be made for incorporating the best of the old with the new.
4. The architect should be supplied with several alternatives when possible.
5. Direct copying of the floor plans of other departments should usually be avoided.
6. Consideration should be given to the effect which changes in staff members may have upon specific spatial allotments.
7. The effect of changes in departmental emphases and specialization with increases in enrollment should be calculated.
8. Music departments should consider and plan for the use of modern recording and broadcast media, particularly educational television, in serving area public schools.
9. The possibility of using certain types of equipment and its effect upon spatial requirements should be considered in building planning as for example, housing of electronic piano classes.
10. The possibility of using different approaches to instruction and their effect upon spatial requirements should be considered in building planning.

11. Institutions of higher education involved in teacher education should attempt to make music teachers of all levels more aware of the relationship between physical facilities and the educational process.

The report, in two volumes, contains all of the detailed data obtained in the study. It can be referred to for information about dimensions, shapes, arrangements, and many more of the minutiae with which building planners must be concerned. Helpful also is the information given on how to go about planning a music building.

The new MENC publication, MUSIC BUILDING, ROOMS AND EQUIPMENT was not available to Sutherland at the time his research was conducted. Neither was Sutherland's work available to the MENC committee which published the report. This reviewer finds the procedures used in the two documents very similar. Sutherland's report is more detailed, but has no pictures as does the MENC report. His data comes almost entirely from the southwest, whereas the MENC report is based on data obtained from many geographic areas.

This study was really more concerned with the music facilities for institutions whose principal curriculum is teacher education. Therefore, the omission of facilities for housing electronic equipment is perhaps crucial to persons building music facilities today.

The reviewer would also add to Sutherland's data the information that state and national Arts Councils are anxious to become involved in planning for the construction of facilities for the fine arts. They are willing to provide tangible help such as expert consultants, advice, and information to building committees if invited to do so.

Also, student opinion might be sought when a music building is planned. Doing this might be appropriate at the present time, but is suggested here as a most practical measure. Students regularly involved in programs housed in facilities under consideration are apt to come up with something that faculty members have overlooked entirely.

The reviewer found this report complete and very informative and thorough in terms of the "ins" and "outs" of music building construction. It is a "must" for music building committees.

Finally, the reviewer suggests that in a study such as the one undertaken by Sutherland no consideration is of greater importance than building site. This question was eliminated in this dissertation by the very title. Yet location determines such vital questions as accessibility of the building to students and public; parking for staff, students and public; convenience in reaching other buildings such as the library and dormitories; convenience to other school functions such as athletic events.

Taylor, Gene F. Culturally Transcendent Factors in Musical Perception
Florida State University, Ph.D., 1969. Order No. 70-8578.
Reviewed by Richard T. Dasher

PURPOSE

In a simpler era, teachers of music could take comfort in the conception that their craft constituted a universal language. Anyone who has witnessed a performance of Japanese *kabuki* theatre, an Indian *raga*, or Balinese *wayang kulit* may have wondered if there were any elements common to the world's musical dialects. Taylor contends that there are: "The purpose of this study is to identify, to account for the origin, and to explore the nature of certain factors common to all music."

Taylor begins with the hypothesis that all men share what he terms "neurophysiological constants," that is, an essentially similar physical and sensory makeup. These constants, he suggests, predispose all men to adopt certain musical procedures regardless of cultural differences. He then attempts to identify certain musical procedures which derive from this neurophysiological sameness.

PROCEDURE

Taylor beings his investigation by surveying the pertinent literature, seeking to demonstrate that his investigation involves original research. His survey briefly covers the fields of aesthetics, psychology, and anthropology. Having established the originality of his research, he proceeds to define certain terms which he uses in the body of the paper. These terms, as defined by Taylor, are the following: *Music-context*--"designates the human organism's total dynamic perceptual-responsive environmental situation in which the music-event (the music alone) is itself a component." *Compensatory change*--"that change which compensates for completeness, sameness or homogeneity but does so through a more or less literal principle of identity." Three types of compensatory change are identified: (1) *ex post facto* compensation, which compensates for an already existent sameness; (2) *in absentia* compensation, which avoids excessive sameness; and (3) contemporaneous compensation, which constantly modifies one element (i.e., pitch) to offset a sameness in some other element (i.e., rhythm). *Complementary variable*--a musical fragment which is "logically complementary" to another; that is, one fragment offsets another by being "logically--not fortuitously or inscrutably--what the other is not."

Taylor illustrates these concepts by applying them to several compositions by acknowledged Western masters of art music, such as J. S. Bach, Bartok, Beethoven, Chopin, Franck, Mozart, Petrus de Cruce, and Schoenberg. Following these examples, Taylor states and defends at length his central hypothesis, namely, that compensatory change and complementary variables are universal, culturally transcendent, biologically based factors in musical perception.

Evidence in support of this hypothesis is drawn from the writings of biologists, psychologists, anthropologists, and philosophers. Taylor defends the theory that all men share a basically similar biological makeup; discounts the effect of cultural bias; links perception to the organization and structuring of data; and posits a universal tendency to seek both completeness and change in perception. The concept of optimal functioning of the nervous system is explained cybernetically. This portion of Taylor's paper is summed up in four hypothetical statements: (1) mankind shares basically the same neurophysiological makeup; (2) perceptual demands for completeness and change exist; (3) these perceptual demands are universal; and (4) the principle of optimality is operant in the human nervous system.

Having stated and defended his hypotheses, Taylor illustrates them, using examples of music from non-Western cultures. Specific notated examples are cited from Central Africa, India, Japan, and China; references are made to many other ethnic musics as well. The principles of compensatory change and complementary variables are shown to apply to these musical examples. The final chapter consists of a short summary of the foregoing.

CRITIQUE

Taylor's purpose was to examine music as an aspect of human behavior, to describe certain musical traits which seem to be biological rather than cultural in origin, and to illustrate these traits as they may be found in the musics of several cultures around the world. He contended that the influence of culture on social behavior had been over-emphasized by contemporary social scientists: "the adherence in twentieth-century scholarship in the humanities and social sciences to a more or less radical cultural relativism,... and the unsatisfactorily confining effects which this adherence can have, were thought capable of amelioration by a restoration of some balance between cultural relativism and naturalism."

This would appear to be a fertile field for research. Considering how little we understand what music is, or what it means, or why men everywhere perform it, any study which examines these questions should be valuable. Taylor's research was thorough; his statement of scientific evidence in support of his hypothesis was persuasive; his refutation of possible objections was systematic. His reasoning from the evidence cited seemed coherent and logical.

Nonetheless, measured by his own standard, Taylor's research fails in its stated purpose. He identifies certain interesting similarities among several selected musical examples, but these are by no means all music, past and present. He sets forth an hypothesis regarding the origin of these similarities, and argues persuasively for his hypothesis; however, other hypotheses (e.g., cultural diffusion) might prove equally persuasive. He explores the nature of these factors, but must admit that in some situations the factors do not apply, despite his contention that "the factors studied here appear in all mand-made music-contexts both past and present in whatever cultural setting."

Some portions of Taylor's paper seem not to be carefully reasoned. Complementary variables, he states, "seem to function to satisfy a perceptual demand for a type of completeness which involves the rational capacity of man for its apprehension." Unfortunately, no definition of the term, "rational capacity of man" is offered.

The tendency to make all-encompassing generalizations is one of the main weaknesses in Taylor's paper. He uses the term "oriental" to signify all music cultures east of Suez, and quotes Margaret Cousins as saying that "the power of improvisation is a *sine qua non* of an oriental musician." Taylor continues, "in fact, only in Japan is this untrue...", thus disposing of the *gamelan*. He discusses "primitive" music, including Australian, New Guinean, and African aborigines under this heading. Later on he discusses the "longer attention span of the nonprimitive," a phenomenon which those acquainted with genealogy chants or voodoo ceremonies will find bemusing.

Taylor's concepts of complementary variable and compensatory change seem potentially useful tools for making cross-cultural comparisons. One must use them with caution; they can be made to explain everything, and therefore to explain nothing. Reduced to absurdity, every musical process beyond reiterating one tone endlessly in even rhythm could be analyzed as some form of compensatory change. If used with discretion, however, these concepts may enhance one's comprehension of performances of a Persian *dastgah*, a Hindu *kathakali*, or Schoenberg's *Erwartung*.

Stylistically, Taylor's writing varies from limpid clarity to Teutonic cumbersomeness; following his syntax is sometimes like running a maze. "On the primary level, value is attributed to each musical product--the music-context--of man's musical activity in proportion to the extent that that product, that music-context, allows or requires the optimal functioning of the neurophysiological factors involved in the act of perceiving and comprehending the musical product--in short, the degree to which the level of optimal intelligibility is approximated in the perceptual experience." Free translation: "Music is valued insofar as it is understood." Such lapses into polysyllables and technical jargon hamper the flow of the text at times.

Despite its defects, Taylor's research has thorwn fresh light on certain fundamental problems of music and music education. He has also provided new intellectual tools for analyzing all music, both familiar and unfamiliar, and perhaps for classifying and evaluating it qualitatively. Could a scale of compensatory change be devised, with monotonic chanting at one end and a North Indiana raga at the other? Perhaps all music recognized in various cultures as "classical" would be found to fall within a given portion of that scale--a suitable topic for a subsequent dissertation.

Tipton, Chelsea. Problems in Curriculum Design for Teacher Education in the Small College Music Department. University of Oklahoma, D.Mus.Ed., 1967.
Reviewed by David Swanzy

Although numerous chairmen of small college music departments face unique curriculum problems each year, few researchers have attempted to delineate these problems and to present logical solutions. Chelsea Tipton's dissertation presents the results of a limited but informative study in this area.

The purposes of this research were "(1) to study the staffing problems of the small college music department in order to determine what effect the problems have on curriculum design; (2) to determine the optimum combinations of competencies for the small college music department which meets the minimum accreditation requirements for National Association of Schools of Music and Oklahoma Certification."

Chapter Two of this study outlines the source of data and the procedure followed. A personal visitation, preceded by a letter of introduction, was made by Dr. Tipton to all music degree granting colleges and universities in the State of Oklahoma. Conferences were held with music department chairmen at fifteen institutions. His questions dealt specifically with staffing problems such as teaching assignment and necessary compromises in curriculum design due to non-availability of certain combinations of teaching competencies. General information concerning the type of institution, enrollment, and degree requirements was also obtained. From another source, the writer was able to determine faculty turnover for the past five years.

Chapter Three was devoted to problems in staffing small departments, and the data presented in Chapter II served as a basis for discussing these problems. Based on an enrollment of thirty-five students, an eight member staff was determined to be the smallest possible staff a department could have and meet the NASM and Oklahoma certification requirements. The writer then determined 100 students to be the dividing point between a small and large department. Recommended combinations of faculty teaching competencies for a one hundred student enrollment were presented. Finally, a department of 225 students was analyzed and compared with respect to staffing problems with smaller institutions.

Chapter Four explored special staffing problems and their solutions, including advantages and disadvantages in staffing for specialized departments and the possibility of a consolidated music system for the State of Oklahoma.

The findings, conclusions, and recommendations were presented in Chapter Five. A significant but debatable finding was that "the music departments with large enrollments offer a better music education than do the departments with a small enrollment." His conclusions may be summarized as follows:

1. Curriculum design has very little flexibility because of state requirements.
2. NASM allows a great deal of flexibility.
3. Eight faculty members are required by a small department in order to offer all courses recommended by NASM.
4. Unusual teaching combinations needed by small departments sometimes create unsolvable staffing problems.
5. The State of Oklahoma could offer a much better music education program for less money if it would eliminate music degree offerings in small schools and concentrate on two or three very large departments.
6. A small college can minimize staffing problems by having an area of specialization.

Dr. Tipton recommends, (1) that a feasibility study be made on the possibility of offering lower division courses only by the small departments in Oklahoma, (2) that a study be conducted concerning the best use of available funds, and (3) that all institutions be required to become members of certain accrediting associations.

Critique

Although it is difficult for a person not directly associated with the problems of music education programs in Oklahoma institutions to be knowledgeable about the particular situation, this reviewer must react with considerable distaste at the thought that small college music departments are less adequate than large ones. Dr. Tipton's assumption that students will receive infinitely better training from "specialists" rather than from well-rounded musicians seems to be shallow and with little foundation. More logical would be the argument that the majority of music teachers should be well-rounded musicians and thus students would profit from association with both specialized and well-rounded musicians. Many graduates of small institutions have found that whatever disadvantages are associated with "smallness" were more than compensated for in closer personal relationships and individual attention.

Without doubt, the outstanding feature of this dissertation lies in recommending teaching combinations needed in Oklahoma colleges and universities. For example, during the period 1961-1966 twelve vacancies occurred for a piano-theory teacher while only two voice-piano vacancies occurred.

Regardless of the status attached to being affiliated with NASM, other accrediting agencies such as NCATE and the various regional associations, combined with the state requirements, provide the guidelines for most departments' curriculum design and staffing. It is admirable, though not altogether realistic, to use NASM guidelines with such unqualified authority.

An interesting idea presented by Dr. Tipton was that a small department which specializes in one area of music education, such as instrumental music, might be able to function more efficiently than if all areas were included. This, of course, would be invalid in those states which certify a music teacher without regard to specialization.

Included in the conferences with chairmen were inquiries concerning the hiring of married couples. Responses indicated that the advantages, especially in flexibility and stability, far outnumbered the disadvantages. Also significant was the dissatisfaction expressed with student teaching supervision not handled by the music department. Duties such as committee assignments, recruiting, and special assignments are seldom compatible with the part-time instructor, and some administrators prefer not to solve staffing problems by hiring part-time teachers.

A good rule-of-thumb was presented by Dr. Tipton in the assignment of teaching responsibilities in small departments. Applied instruction in some areas, such as voice, although possibly a full load for one teacher, might better be divided between two or three teachers to enable those teachers to aid in other teaching assignments.

Dr. Tipton has given an "efficiency-expert" view of the staffing and curriculum needs of a small college music department. For his precise and pointed suggestions he should be commended; some writers would have chosen to avoid clear-cut answers. Most of the analyses of his findings are well-founded in thought, study, and knowledge of the situation in Oklahoma. To apply the results of the study to another locale would, however, be misleading. Because of this we can wholeheartedly applaud his conclusion that NASM allows for a great deal of discretion in curriculum design. With all of these good points, it is regrettable that the overtone of the dissertation suggests the superiority of large departments over small ones.

Tross, Ray. The Present Status of Bands and Band Department Ensembles
in Higher Education. Colorado State College, Ed.D., 1964.
Order No. 65-4781.
Reviewed by Alan H. Drake

The purpose of the study was to determine the present status of college bands in the Southwestern division of CBDNA and selected college and university bands and wind and **percussion** ensembles of the remaining five divisions. It further attempted to determine the potential of these groups and to identify the elements which lead to a successful college band program which gives maximum service to students, school, and community. Questionnaire responses were analyzed from 104 institutions--40 from band conductors in the Southwestern Division of the College Band Directors National Association and 64 from selected conductors in the remaining five divisions of the United States.

SUMMARY OF FINDINGS

1. The majority of the respondents were well qualified and experienced.

2. A majority of the conductors directed both marching and concert bands, and the most popular size of the groups was between 75 and 80 for concert and between 102 and 135 for marching bands.

3. Brass choirs were securely established, but clarinet choirs, woodwind choirs, percussion ensembles, and stage bands were not experiencing rapid development.

4. Four major concerts yearly was the trend, with only occasional appearances on these programs of smaller ensembles. A noticeable increase was evident in the amount of original and contemporary wind music being programed. Average concert attendance was only moderate. Over 80 percent of the conductors favored no concert admission charge.

5. Credit for band was widely given, and substitute physical education credit was favored. However, only 37 percent of the schools granted credit for stage band.

6. Conductors were first interested in improvements in administrative procedures, and secondly in financial improvement.

7. Public school services included guest conducting, public school visitation, and instrumental clinics. Less emphasized were hosting concert band clinics, teaching public school students privately, and using public school soloists and ensembles on college band programs.

8. There was general recognition and support of the college band's dual role of education and entertainment, but a desire to achieve a proper balance was evident.

SUMMARY OF RECOMMENDATIONS

1. One-third of the teaching load should be allowed for conducting.

2. Band personnel should have a stronger voice in the selection of repertoire.

3. Instrumental music majors should be required to play in the concert and marching bands and have a chance to conduct.

4. Quality concert literature should be performed with more attention to the use of smaller ensembles and symphonic wind ensembles. These should be added to the regular "tutti" concerts. Rehearsals should be increased to four per week.

5. Transcriptions as well as contemporary music have a place.

6. There should be no academic limitations on band membership.

7. Adequate financial support should be made including scholarships, operating budget, and tour budget.

8. Conductors should do more clinic and adjudication work as well as conducting a more extensive program of aid to public school programs.

9. Some type of stage band experience should be available.

CRITIQUE

Dr. Tross has accumulated a valuable supply of information concerning college and university bands. The findings should be useful to those involved in the administration of college bands. The high qualifications and extensive experience of the respondents give added validity to the study.

This 265-page dissertation, exclusive of appendices, could have been presented more concisely. There are frequent grammatical errors and much repetition. Occasional awkward phrases tend to detract psychologically from the validity of the study.

A more serious problem is the apparent bias of the writer which infiltrates the study, especially in the summary and conclusions. No matter how acceptable and logical the opinions of the writer may be to band conductors and other readers, it seems that such subjective interpretation and editorializing of the results are inappropriate in a summary and especially in the conclusions. Actually, some of the conclusions contained summarizations of data. This style of reporting made it difficult to sift the objective findings from the personal opinions of the writer, and, as a result, the conclusions were bulky and confusing to interpret.

This dissertation, nevertheless, contains much helpful information in an area of need. The basic format and method used in the study were excellent, and they were successful in procuring the desired information which should prove very useful and enlightening to those interested in the findings.

Uber, David Albert. The Brass Choir in Antiphonal Music. Columbia University, Ed.D., 1965. Order No. 65-11,713.
Reviewed by Edgar M. Turrentine

PRELUDE

In the past few years academia has witnessed a proliferation of doctoral-type degrees. There are Ph.D.'s, Ed.D.'s, D.M.A.'s, D.M.'s, and D.A.'s, to cite the more popular ones. Each requires the student to present a thesis, dissertation, integrating paper, or essay as a culminating project. Each undoubtedly serves the purposes of the institution granting the degree. The tendency is to consider these projects as contributions to information which may not be the case at all. They may be exercises in the collection, collation, or exposition of information and should be evaluated accordingly. Yet, when the language of the written report of the project utilizes the language most commonly used in reports whose purposes are to contribute information, it is subject to the standards of criticism used for that type of project. For example: when reading a "history" report which employs the phraseology of reports contributing to information, the reader will be curious as to whether the data were taken from primary or secondary sources, what techniques of external and internal criticism were exerted upon the data, to what type of interpretation the data were subjected, and what philosophy was adopted in determining cause-effect. If the report will not stand rigorous scrutiny disappointment may result. However, the disappointment may be unwarranted because the purpose of the project may not be to contribute information. All this is a prelude to reviewing a report utilizing the "jargon" of a "contribution to information" report which this reviewer thinks served the doer of the project in a way other than making a contribution to information.

Contrast in music, as in any of the arts, is a fundamental element and one of the most intriguing ones to the composer. How he manipulates this element takes many forms. One way to manipulate this element is the setting of forces opposing one another, spatially. Dr. Uber's project deals with this method of contrast. It was his purpose "to foster an interest in antiphonal music for brass choirs," "to contribute to the restoration of brass antiphonal music to a position of importance," to encourage music teachers "to acquaint themselves with both the old and the new forms of antiphonal brass writing," and "to stimulate musicians to compose works for alternating brass choirs."

These are all admirable purposes. In order to realize them the "scope of the project" included a historical and analytical study of the past and present antiphonal brass compositions with emphasis on texture, rhythm and instrumentation and a presentation of "various techniques of writing for antiphonal brass choirs." The procedures used were "extensive research" and "a study." The technique of "extensive research," which is quickly determined by a glance through the bibliography, was a collation of information gleaned from the sources once, twice, thrice, and more removed from the primary source. The technique of "study" consisted of a rather simplistic description of certain compositions by Brant, Hovhaness, Langlois, Walton, Raph, Nelhybel, and the author of the project. The development of a summarizing or concluding statement might have brought a focus to the presentation of his "extensive research" and "study". Certainly summary and conclusions would have contributed to the realization of the purposes of "interesting," "contributing," "encouraging," "acquainting," and "stimulating" for readers of Uber's project.

POSTLUDE

The above review may create the impression that this reviewer was disappointed. On the contrary, he is adopting the viewpoint that the purpose of the project was not one of contribution, although that "jargon" was used in the reporting, but rather one of collection and collation. It is assumed that it added to Dr. Uber's technique as a performer, conductor, composer, and arranger of antiphonal brass choir music and, therefore, a successful project for him.

Wade, Ralph Esrom. Susanne K. Langer's Musical Aesthetics With Implications for Music Education. Indiana University, 1965. Order No. 66-1335.
Reviewed by Charles H. Ball

It is axiomatic that those whose business it is to teach an art should know something of the philosophical bases upon which the art rests. Among systematic formulations of these philosophical bases, the work of Susanne Langer is, perhaps, the most complete and consistent. A serious, first-hand study of her main books, Philosophy In A New Key and Feeling and Form, is a rewarding experience in its own right, as well as a potentially transforming experience for the professional life of a teacher of the arts. This dissertation is an attempt to explain the roots of Langer's aesthetic philosophy, to explain the philosophy itself, and to draw implications for music education from its main points.

To condense the text of the dissertation and present it in precis form would be impossible. Also, to condense what is, in itself, a kind of condensation would be simply to present a good argument third-hand. I can only advise you to turn to the dissertation itself, or, better yet, to the original works of Langer. Rather than attempting such a summarization, I should like to present two critical comments, one positive and one negative.

First, let me say that the author's analysis and presentation of Mrs. Langer's theory is complete, perceptive, and is presented in very competent prose. To gather threads of a complex argument from such a variety of sources, including the periodical literature, and to weave them into a close fabric is a formidable task. Wade has accomplished that task well. I know of no simpler, more understandable presentation of the theory. If this dissertation serves as an introduction to the original works, and does not become a substitute for them to some readers, it will have served its purpose well.

Now let us look at the other side of the coin. The negative criticism I would make of the dissertation concerns the methodology employed in drawing implications for music education: the taking of each specific point of the aesthetic theory and applying it to the practice of teaching on a one-to-one basis--that is to say, the method of "This theoretical point means that educational practice." This results only in a description of practices which good teachers have always employed. The value to be found in contacting works such as Langer's lies in the personal growth, almost always of an intangible kind, which takes place in the reader. And herein the danger lies: that having read a second-hand account of the works in question, the reader fails to turn to the works themselves. To do this, the excellence of this dissertation notwithstanding, is to miss the point entirely.

Wagner, Hilmar Ernest. A Study of Physical, Mental and Musical
Characteristics of Selected Band Members. North Texas State
University, Ed.D., 1967. Order No. 67-15,021.
Reviewed by James M. Shugert

Wagner's investigation was an attempt to find whether there are observable characteristics necessary for performance on certain band instruments and thereby to assist band directors in guiding students in selecting instruments. When beginning instrumental music students are allowed to choose instruments rather than being assigned instruments, their teachers normally follow one of two procedures. Either the teachers accede to the instrument preference of the student and his parents, or they recommend an instrument on the basis of their evaluation of the student's chances for success on a particular instrument according to criteria such as physical characteristics, musical potential, or academic skill. Wagner prefers the latter method, believing that the former is haphazard as well as a cause of imbalanced instrumentation in school bands; but he also feels that teachers need more reliable means of evaluating a student's potential for success on an instrument than are presently available.

Wagner's stated purposes were (1) to determine whether physical, mental and musical differences existed between instrumental sections of the high school band and (2) to determine whether those differences were existent at three grade level groupings of high school and college band members. The three grade level groupings were ninth- and tenth-grade high school students, eleventh- and twelfth-grade high school students, and college students.

After reviewing the literature concerning characteristics essential for successful performance on various band instruments, Wagner decided to investigate the following: physical characteristics--usable vision, threshold of hearing, manual dexterity; mental characteristics--intelligence, temperament; musical characteristics--mental hearing, band music preference. Seven null hypotheses were formulated to compare means of scores of each high school band section with each other section in each of the physical, mental and musical characteristics. Three additional null hypotheses were designed to make comparisons of mean scores on physical, mental and musical characteristics of ninth- and tenth-grade students with eleventh- and twelfth-grade students, ninth- and tenth-grade students with college students, and eleventh-and twelfth-grade students with college students.

PROCEDURE

A minimum standard of competence in instrumental performance was established with high school students by selecting students from within Texas high school bands that had earned the Sweepstakes rating for two or more consecutive years. To be selected each high school student must also have earned a first or second division rating on a Class I solo or ensemble, a first division rating on a Class II solo or ensemble, or have been a member of the All-State Band. College students selected for the investigation were those judged competent performers by the music faculties of their schools. Three hundred fifty-four high school students from 31 high school bands and 50 college students from two colleges formed the population of the study.

The physical characteristics of usable vision was measured with five subtests of the *Keystone Visual Survey Tests*. Subjects were tested with both eyes open as in the environmental situation. Hearing thresholds were measured at 250 cycles per second and at 8,000 cycles per second with the *Maico Audiogram*. Gross movement of hands, fingers, and arms as well as tip of finger dexterity was measured with the *Purdue Pegboard*.

The mental characteristic of intelligence was measured with the *California Test of Mental Maturity, 1957, S-Form*, Grades 9-13 version for high school students and Grades 10-College and Adult version for college students. Temperament was measured with the *Guilford-Zimmerman Temperament Survey* (including general activity, restraint, ascendance, sociability, emotional stability, objectivity, friendliness, thoughtfulness, personal relations, and masculinity) for high school and for college and adult ages.

The musical characteristic of mental hearing was measured with the *Gordon Index of Musical Insight* by Roderick Dean Gordon. The index contains 25 exercises, each of which has four to eight scrambled measures which are to be placed in order. Mental hearing then would be the ability to imagine the sound of the printed music well enough to put the measures in order.

The musical characteristic of band music preference was measured with a test Wagner constructed, the *Band Music Preference Profile*. At one point Wagner states that the test was to determine if different sections of the band preferred different types of band music. However, since he made no comparisons based on types of music preferred, the function of the test was to measure degree of liking for the music presented on the test. The test consisted of a tape recording of 25 band compositions featuring solo instruments with band background. Subjects registered their preference on a seven-point Likert-type scale which ranged from strong disliking to strong liking. Practical validity was established in an earlier administration by Wagner to 104 high school and college band members.

All tests were administered by Wagner. Factor analysis was used to study the relationship between membership in the ten band sections and the 21 test variables: Keystone Visual Survey Tests (five subtests), Maico Audiogram (250 and 8,000 cycles per second), Purdue Pegboard, California Test of Mental Maturity (total scores), Guilford-Zimmerman Temperament Survey (ten subtests), Gordon Index of Musical Insight, Band Music Preference Profile. After product moment correlations were obtained, they were analyzed by centroid factor analysis and then submitted to the varimax rotation.

Analysis of variance was used to test the differences among the means of the three grade level groupings. If F was found to be significant, then further tests were made by applying *t* tests to determine between which group means the significant differences were to be found.

RESULTS AND CONCLUSIONS

Wagner was unable to reject any of the seven null hypotheses concerning differences between sections of high school students on physical, mental, and musical characteristics. Relationships were noted between sections and characteristics and among characteristics, but no interpretation was offered for these relationships--perhaps because no attempt was made to determine causal relationships between characteristics and degree of musical success. Wagner concluded that because high school students did not differ between sections on physical, mental and musical characteristics, music teachers should not select instruments for children on these bases.

The null hypothesis that there would be no significant differences between the physical, mental and musical means of the scores of ninth- and tenth-grade high school students when compared with eleventh- and twelfth-grade high school students was partially rejected. The Guilford-Zimmerman traits of restraint and thoughtfulness reached the .001 level of significance indicating more restraint and greater thoughtfulness for eleventh- and twelfth-grade students than for ninth- and tenth-grade students. Eleventh- and twelfth-grade students also exhibited greater preference for band music than ninth- and tenth-grade students (.01).

College students also proved superior to ninth- and tenth-grade students on the Guilford-Zimmerman traits of restraint (.001) and thoughtfulness (.05). In addition, as compared to ninth- and tenth-grade students, college students showed greater ascendance (.001); were more objective (.001), masculine (.001), and intelligent (.001); and had better usable vision, left eye (.05). Ninth- and tenth-grade students scored higher than college students on auditory tests (.05). Consequently, the null hypothesis that there would be no significant differences between the physical, mental and musical means of the scores of ninth- and tenth-grade high school students when compared to college students was rejected.

The null hypothesis that there would be no significant differences between the physical, mental and musical means of the scores of eleventh- and twelfth-grade high school students when compared to college students was also rejected. While eleventh- and twelfth-grade students were superior to college students on auditory tests (.001), college students were superior to eleventh- and twelfth-grade students on the following characteristics: intelligence (.001), restraint (.001), ascendance (.001), objectivity (.001), thoughtfulness (.05), masculinity (.001), mental hearing (.001) and musical preference (.001).

Wagner interpreted the superiority of both high school groups to the college group on physical hearing as being consistent with studies by Sterling and Bell and Banerjee showing hearing loss as people grow older. Age difference is also given as an explanation for differences between the high school groups and between the college group and both high school groups on restraint and thoughtfulness. Greater preference for band music by eleventh- and twelfth-grade students as compared to ninth- and tenth-grade students, and by college students as compared to both high school groups is explained by Wagner as perhaps due to more band experience and greater familiarity with band music.

Wagner believes that greater selectivity of students at the college level may account for the fact that college students scored higher in the intelligence test than either high school group. Also Wagner thinks it possible that college students may be more "test wise." Higher scores on mental hearing by college students as compared to the eleventh- and twelfth-grade group may be "possibly due to their [college students] wider repertoire of familiar tunes and increased training in key recognition and establishing the concept of key." No explanation is given of the fact that college students did not score higher than ninth- and tenth-grade students on mental hearing. Also, Wagner does not interpret visual differences between the ninth- and tenth-grade group and the college group.

Predictably, Wagner recommends further study of characteristics necessary for performance on different band instruments and the development of tests for predicting success on instruments. Wagner suggests research with students who are less competent performers than the students used in this study to determine whether their physical, mental and musical characteristics are the same as these specially selected students. He also recommends that band directors employ some form of preband testing to study the physical and temperamental characteristics of prospective instrumental students.

REVIEWER'S COMMENTS

Matching the right beginning student to the right instrument has always been a problem for instrumental music teachers. By providing some indication that successful oboe players are not necessarily more intelligent than successful drummers nor significantly different in manual dexterity, vision, hearing ability, and temperament, Wagner hoped to show that these criteria may not be useful for guiding students in selecting an instrument. However, since students in this investigation were not chosen for their physical, mental and musical characteristics and since no attempt was made to correlate characteristics with success on an instrument, the logic of this study can be questioned.

One might be able to indicate by following a similar line of reasoning that unintelligent people make better thieves because the average I.Q. of successful burglars is below that of successful people in general. Therefore, even if significant differences were postulated by means of this post hoc argument we would still be without guidelines for taking an individual's score on the given characteristics and assigning him an instrument.

Use of a control group of students who evidenced no particular competence as performers or who were not musicians might have strengthened the study by allowing comparisons with the characteristics of the competent performers. Wagner recommends use of such a control group for further study.

The reviewer also questions the use of advanced performers as subjects for a study primarily concerned with searching for better ways of evaluating the beginning student's potential for success. Whatever deficiencies the subjects of this study had on any of the measured characteristics apparently did not prevent them from being successful performers. Furthermore, since Wagner studied advanced students, it is difficult to generalize about possible applications with beginning students of any of the tests employed in this investigation.

The reviewer wishes Wagner had stated his reasons for measuring the physical characteristics of vision, hearing and manual dexterity rather than some of the characteristics cited in the review of expert opinion: thickness of lips, evenness of teeth, shape of the jaw. Has the validity of the latter characteristics been sufficiently established so that further study is not warranted? Is there a problem in measuring certain characteristics such as thickness of lips? This aspect of the study could have been improved had Wagner justified his selection of some physical characteristics and not others for investigation.

Wagner's study suffers somewhat from confusion of goals, particularly concerning the identification of musical characteristics. In examining band music preference, Wagner wanted to discover whether players of different instruments prefer different types of band music. But the Band Music Preference Profile did not measure taste for different types of band music. Instead it showed degree of liking for the music presented in the test. Furthermore, Wagner hoped that his test might prove useful for guiding beginning students in selecting an instrument. But since high scores on the preference test seemed to be associated with band experience and familiarity with band music, the test would obviously be inappropriate for use with beginning students.

Wagner seems equally unclear whether the characteristic of mental hearing measured by the Gordon Index of Musical Insight is an aptitude or an achievement. His citations from related literature, particularly an article by Ensor, indicate that he wanted to measure aptitude. But when he later observes that college students were superior to high school students on index scores, he concludes that this might have been due to college students' achievement through experience with a wider repertoire of familiar tunes and training in key recognition. Again, since Wagner's ultimate goal was to assist teachers in guiding beginning students, the reviewer wonders why he used a test which measures a kind of achievement beginning students would not usually have attained. Wagner recommends a continued search for tests which can be helpful in predicting success in instrumental music study. Fortunately, since Wagner's 1965 study better tests for use with beginning students have become available. They are the Gordon Musical Aptitude Profile and the Colwell Music Achievement Tests.

The study also leaves a great deal to be desired in statistical methodology.

The way in which factor analysis is proposed to be used (Chapter I) does not agree with the way it was carried out as reported in the analysis and interpretation section. In Chapter III Wagner states that the "correlations shown in Table IX were then submitted to the Varimax Rotation..." If this statement is true and the critical intervening step of obtaining the initial centroid solution was disregarded, one can only speculate on the validity of the results shown in Table X which form the basis for many of his conclusions.

If this is accepted as misstatement, however, there are still too many weaknesses in this section to pass without comment. Additional omissions include the method used to arrive at the original communalities, the basis for selecting 14 varimax factors, the percent variance accounted for by each factor and above all, adequate justification for the use of dichotomous, exclusive variables, i.e., section membership, in a factor analytic study. This application is not frequently seen and the assertion that factor analysis is the appropriate means for this study is itself open to question as it is by no means clear why multiple discriminant analysis might not be more appropriate.

Further confusion is generated in the analytic section by two different uses of the word "significant." The "significance" ascribed to a certain F ratio is not the same as that indicated by saying that a factor loading has "significance" when it reaches .30 or greater, a relatively subjective judgment.

The section, pp. 75-83, in which the three levels are compared is likewise of little merit. The original statement of the problem implies that the given characteristics will be compared between sections within levels which might prove interesting. In practice, however, the study compares characteristics between levels. The information that college band members tend to be more intelligent than ninth- and tenth-graders will come as a shock to very few of us and it is difficult to see what application such figures have for music education.

It should also be noted that the significance testing done in this portion of the thesis is accomplished by the use of t test after analysis of variance, a procedure generally considered to be improper methodology where orthogonal comparisons could have been made more appropriately. Several inaccurate tables also leave one with a poor overall impression of the research.

The question of whether to test prospective instrumental music students for certain characteristics is left unresolved. In stating his conclusions, Wagner suggests that, in view of the fact that no significant differences were found between instrumental sections on physical, mental and musical characteristics, one may well question advising a child against a certain instrument. Yet he later recommends that "since Ward and others feel that the director should study very carefully the physical and temperamental characteristics of each boy and girl, testing seems a reasonable answer." What Wagner does not explain in light of his own research is how the test data should be used in guiding students.

Wagner raises important questions in this investigation and collected considerable data on a large number of high school and college band students. The data indicated that groups of successful performers on different instruments did not differ significantly from each other on the physical, mental and musical characteristics he studied.

Ware, Robert Livingston. A Study of the Relative Effectiveness of Three Organizational Plans of Music Instruction in Developing Appreciation for Music in the Elementary Grades. University of Oregon, Ed.D., 1968. Order No. 69-12,641.
Reviewed by David Swanzy

In many elementary schools the entire responsibility for music instruction is in the hands of the classroom teacher. In other cases this responsibility is delegated to music specialists. However, the majority of organizational plans of music instruction fall between these two extremes with varying degrees of cooperative arrangement. More often than not, the organizational plan is chosen not because of its effectiveness but because of tradition, compromise or convenience. There is, unfortunately, a lack of research concerning the relative effectiveness of various types of organizational plans for teaching music including the developing of appreciation.

In order to provide direction in deciding who should teach music, Dr. Ware proposed to study the relative effectiveness of three organizational plans of music instruction in developing elementary students' appreciation for music. The plans were:

1. The classroom teacher is responsible for music instruction in a completely self-contained classroom. There is an elementary music supervisor for the entire school district who assists teachers when such assistance is requested.

2. The classroom teacher is responsible for music instruction in the primary grades (1-3) with consultant assistance when such assistance is requested, and the music specialist is responsible for music instruction in the intermediate grades (4-6).

3. The music specialist has full responsibility for a departmentalized music program.

In addition, other questions were posed. For example: Do subjects within low, middle and high I.Q. category established for the study seem to benefit more than one of the organizational plans of music instruction than another? Are there differences between subjects of varying I.Q. levels within a particular organizational plan of music instruction?

THE PROCEDURE

Three school systems in Oregon, each representing one of the organizational plans of music instruction, were selected for the study, conducted in May and June of 1965. Each sixth-grade classroom was involved in approximately two hours of testing, with 470 pupils included in the final sample. The following independent variables were determined concerning each student: (1) age; (2) sex; (3) number of years of school attendance in the city; (4) I.Q.; (5) music aptitude; (6) home music environment; and (7) extra-school music environment. The criterion variable, music appreciation, was measured by the Oregon Test of Musical Discrimination. In order for a subject to be included in the study, he must have been within the normal age range and in attendance in the city schools for five of the six years.

Stepwise multiple regression was the statistical technique used to determine the weight of each of the independent variables on the criterion variable. An analysis of covariance allowed the researcher to adjust for the effects of one or more variables.

INSTRUMENTS USED

Permanent Record Folder

I.Q. scores (California Test of Mental Maturity) were obtained from the permanent record folders, with each district granting the necessary permission. Also available from this source were data concerning age, sex, and number of years of attendance at the one school.

Music Background Questionnaire

The music background questionaire was constructed by the researcher in such a way that two scores were obtained. The Home Music Environment Score was determined by answers to questions relating to the amount of singing, musical instruments, and sound appliances (radio, etc.) in the home. To obtain an Extra-School Music Environment Score, questions were asked which dealt with the individual's experience in singing and playing, including amount of private instruction as well as church and school music activities.

Drake Musical Aptitude Tests

For a music aptitude evaluation, Form A of each subtest (musical memory and rhythm) of the Drake Musical Aptitude Test was used. As a result of the stepwise multiple regression analysis, the score on rhythmic aptitude was not included in the final analysis because it did not contribute significantly to the criterion variable.

Oregon Test of Musical Discrimination

Described as the best of the appreciation tests, the Oregon Test of Musical Discrimination, constructed in 1933 by Kate Hevner, was used for an appreciation score. Briefly described, this test challenges the subject to qualitatively choose between an original and a mutilated version of a short musical excerpt by crossing out the appropriate symbol on the answer sheet. In addition, the subject indicates the nature of the difference (rhythm, melody, harmony, or form) between the two versions.

THE FINDINGS

Although females scored higher than males, there were no significant differences between the three organizational plans when the responses of the male subjects were compared. This finding was also true of female subjects. This prompted the researcher to exclude this variable from the remainder of the analyses.

No significant differences between the three plans were found when the subjects were compared according to their I.Q. grouping (low, middle, high). However, in the organizational plan which provided for music instruction to be the primary responsibility of the classroom teacher, significant differences between the responses of low and high, and mid and high I.Q. groups were observed. Similarly, the organizational plan which provided music instruction by a specialist showed significant differences between all I.Q. groupings. The other organization plan indicated no such differences.

In studying the effects of home music environment on music appreciation between low, middle and high categories within one organizational plan as well as from plan to plan, no significant differences were found in ANY instances.

Effects of extra-school music environment on music appreciation scores met with similar results. A notable exception occurred with the organizational plan which combined the efforts of classroom teacher and specialist, where a significant difference existed between the scores in the low and high, and mid and high extra-school music environment groups.

No significant differences between the three organizational plans were reported when comparing musical aptitude and appreciation scores. However, some significant differences in these scores were found within each of the three organizational plans.

Finally, no significant differences in the music appreciation scores as a whole were found between ANY of the three organizational plans.

CONCLUSIONS

Due to a lack of significant differences of the calculated scores between the three organizational plans, it does not appear that any one of the plans of music instruction in the elementary grades is more effective than the others. Differences within organizational plans, however, should be noted, especially in relation to I.Q., extra-school music environment scores, and music aptitude.

CRITIQUE

The need for studies such as this is evident. The profession of music teaching, while showing strength in the area of developing talented musicians, is notably weak in developing discriminating consumers of music. This is due, at least in part, to the lack of a widely accepted and tested organizational plan for developing music appreciation in young children.

Dr. Ware has made a contribution to the field of music education by initiating research which, hopefully, will lead to major revisions and to standardized organizational plans known for producing musically literate children. The fact that this project shows no clear-cut choice of plans studied should in itself encourage further detailed studies. His procedures and design seemed well planned. The incompleteness with which he treated his data, however, makes this study a questionable model to follow.

One might question the formulation of two hypotheses after analysis of the data and the use of t-tests after analysis of covariance. It is also unfortunate that Ware fails to provide data for

(1) The stepwise regression analysis, and

(2) The means and standard deviations for most of his analysis of covariance tables.

It was well established that many organizational plans are feasible and that the three chosen ones represent the two extremes and an approximate midpoint between them. Even with this stipulation, however, the reviewer felt a need for a stronger midpoint plan more in keeping with its potential success. More varied results might be obtained if this plan were based on how a music specialist serves the classroom teacher rather than the cooperative method used. Specifically, it would seem that a third plan, which provided the classroom teacher with the resources and ideas of a music consultant on a flexible but frequent schedule, would have given an entirely different third approach to the music learning situation.

It is critical that the investigator failed to account for the nature of the teaching method of each plan. Clearly the "teacher variable" had some effect on the final results of the study.

Of a more serious nature is the fact that no statistical data of any kind is given in this document relative to the fourth hypothesis. However, the author states that "no significant differences existed in the comparison of the three organizational plans" (p. 82).

Also established, with a most adequate review of literature, was the fact that music appreciation is difficult to measure and that the Oregon Test of Musical Discrimination measures "only a few factors which enter into this complex activity." Nevertheless, the implication that music appreciation had been measured by this test, since this was the criterion on which the study balanced, was present. Hevner's Oregon Test of Musical Discrimination is, according to some authorities, relatively limited concerning its capabilities for assessing music appreciation. This possibility only confounds Ware's attempt to deal adequately with the "appreciation" problem. In our contemporary culture, an evaluation which rewards a choice for the sake of beauty and traditional sound, as this measurement does, seems to be recognizing little in the way of creativity and is not necessarily judging true appreciation at all. The reviewer has no solution to this problem other than to call for the development of a valid and up-to-date instrument for measuring music appreciation before other research of this nature is attempted.

The researcher's results in this area do, however, remain suspect. Ware's questionnaire was quantitative in nature and yet it was qualitative information that he was seeking, viz., "music home environment" or "extra school music environment."

Other fundamental questions arise which have been debated from time to time by music educators. One concerns the definition of appreciation, defined by Dr. Ware as "the product of the relation between music and the individual with his background of experience." Another involves the purposes of the elementary music program, again the implication being strictly "an appreciation of music."

To find that home music environment and, to a large extent, extra-school music environment contribute little to music appreciation may be alarming to many music teachers. And yet, the facts related in this study reveal a probable fallacy in traditional thinking. Ramifications may, in time, be felt in the entire structure of public school music.

One other comment must be made in closing. Music teachers may find it hard to believe that pupils of music specialists fare no better in their music appreciation scores than those of classroom teachers. However, before assuming that such a finding is a result of poor research, one might consider that weak instruction by the specialists is the rule rather than the exception. If music specialists are adequate in their presentations and the superiority of their results are still questionable, then another possibility remains: The use of music specialists in the traditional sense does not guarantee a superior music program; therefore, more effective organizational plans are in order.

Dr. Ware is to be congratulated for his most informative and thought-provoking study. It was a pleasure to read a true contribution to elementary music education research.

Wareham, Duane Emerson. The Development and Evaluation of Objective Criteria for Grading Band Music Into Six Levels of Difficulty. The Pennsylvania State University, Ed.D., 1967. Order No. 68-12,014.
Reviewed by Lawrence J. Intravaia

It is significant to note, in the Council's lists of dissertations available for review, the increasing number specifically devoted to problems concerning the band and/or instrumental music. These problems have awaited discovery, discussion, analysis, and solution since the inception of the band in the public school. It no longer seems sufficient to simply describe methodology or techniques involved in the operational procedure of some individual band; concepts, principles, and analytical techniques have come to the fore. So it is with this study.

Most conductors of school groups will agree that the repertoire and instructional material studied and performed by their group constitutes its course of study. In order for a student to progress logically from one technical and developmental level to the next, the musical material must be sequentially arranged and graded by degree of difficulty. Wareham feels that graded material is extremely vital to this student progress.

Wareham found that, although published literature involving the grading of musical material exists, it is highly subjective and that little actual research exists on the subject. He states that the most reliable avenue for minimizing the variability inherent in subjective grading is through the establishment of an objective method.

The author found the need for research in this subject to be further substantiated by a pilot study involving graded music lists from various states. The study indicates a confusing situation. A comparison of the graded lists revealed variance both in number of grades and the means of marking the grades. A survey of 26 band music publishing companies' lists of publications revealed that confusion also exists among the publishers' approach to grading of materials.

Therefore, Wareham's study proposed to: (1) develop and evaluate objective criteria which would facilitate grading band music into six levels of difficulty and (2) test the validity and reliability of the objective criteria.

The study is organized into five parts: (1) selection of music for analysis; (2) analysis of selected music; (3) development of criteria; (4) evaluation of criteria; and (5) statistical analysis.

Five variables constitute the objective criteria developed in the study; each is organized into six levels of difficulty. Variables are key signatures, accidentals, range, meter signatures, and rhythmic characteristics.

To evaluate the effectiveness of the objective criteria, selected band arrangements and compositions were rated by (1) a subjective method utilizing three experts and (2) an objective method utilizing two first-year band directors who were instructed to apply the criteria. The degree of similarity between the two sets of judges was exceptionally close; all results were identical aside from one composition.[1]

Based on an analysis of the data resulting from the study, Wareham offers the following conclusions: (1) band music can be graded objectively and (2) the objective criteria developed in the study appear to be valid and reliable.

Wareham's writing style is straight-forward, and the dissertation is quite readable. The study is a valuable one not only for the experienced band director but especially for the new and inexperienced person. The author realized and found that certain persons ridicule any effort to grade music into levels of difficulty. They will probably continue to do so even after reading this study, maintaining as they have that their instrumental programs have too many highly individual problems to be solved by standard norms or criteria. If the instrumental segment of the music education program is to attain any sort of national uniformity as have other academic disciplines, perhaps the techniques and approaches of Wareham should be utilized by others.

Warren, Fred Anthony. A History of the Music Education Research Council and the Journal of Research in Music Education. University of Michigan, 1966. Order number 66-14,612.
Reviewed by Robert W. John

The more history one reads, the more certain one becomes that people, not organizations, not agencies, not machines nor political parties but living, active people--shape the course of history. Another thing which frequently strikes a reader of history is the feeling that one is presently involved with events identical to those of the past. Comparing a page of contemporary history with a page of past history frequently reveals striking similarities. It is unfortunate that reading or reporting history is not especially popular in music education today, for by ignorance of the past, we neglect valuable charts which might be of assistance in guiding present action.

Warren has examined the history of two related facets of the Music Educators National Conference. One is a long established committee or council while the other is a relatively new journal, the tie being that both deal with research in music education. While we have historically disagreed on what research is in music education, both of these facets have the word RESEARCH prominantly in their official titles, and both have in fact, the same family lineage.

The study is divided into three parts, with several appendices listing the names of council members, editorial committee members, lists of publications of the Council, and a topical index of the articles which have appeared in the Journal. Part I is a history of the Music Education Research Council (MERC) from its inception in 1918 to 1940. It relates the sturm and drang of the body; its changes of names and philosophy during these years, and describes in some detail the important bulletins and guides published by the council. The author entitles the single chapter of part II, "A Reduction of MERC Activity, 1940-1958" in which he speculates on the reasons for the eclipse of influence and activities of the MERC during World War II and post war years. The self evaluation of the council of 1946 and again in 1954 was sufficiently rigorous in nature to make some of the council members advocate that the organization be abolished. Again one reads of men like Theodore Normann who held the reins tightly and guided the council with the expertise and tenacity which marks a true leader.

Part three is devoted to a history of the Journal of Research in Music Education (JRME), that is from 1953 to 1965. While it does not ignore the Research Council during these years, the bulk of the three chapters which constitute this final part, deals with the Journal and its influence, both on the MERC and the profession as a whole. The final chapter, on the society of research in music education, is probably the most enlightened report of this mysterious organization one will find anywhere.

COMMENTS

What better guidance could Warren have in writing a history of the JRME than that given by its founder and sole eidtor. Writing this dissertation under the tutelage of Allen Britton, the author had the advantage of having immediate access to both critical documents and first-hand experience. It was therefore possible to write a history "like it was." While such a project can make for great accuracy, it takes away a bit of the fun of historical research, of discovering bits and pieces of information which are used in building a composite whole. I suspect, however, that the times are indeed rare when a student writing a dissertation--historical or otherwise--spends much time concerning himself with the fun of the experience.

The Music Educators National Conference was ready in the late 1940's and early 50's to launch into programs of a more academic and scholarly nature than had been its previous concern. From its beginning to mid-century, it had to "get the show on the road." This is best done by very practical means, and there is no doubt that a major factor in the successful establishment of music in the American schools was the practical, uncomplicated, approach the Conference took regarding the art. For those who criticized--and there are still some critics among the musical ranks of this country--let them produce a similar phenomena. The fact is that up and down the MENC roster, from the board of directors, through the research council, and down through the organizational channels to the new initiates, men of faith and dedication were willing to do more than sit around square tables damning and ridiculing. They acted! Naturally, when action takes place there is bound to be disagreement (or even acknowledged mistakes), but our public schools present musical status--would be far different musically if such action had not been taken.

Much of the virgin plowing done by mid-century, the MENC now felt itself to be in a position to begin refining and polishing its programs and concerns. The Music Education Research Council, which had been a primary force in getting jobs done, was no longer a single major generating agency. Many new committees and commissions were established with young, forward-looking personnel, and while it would be an overstatement to say that these new groups took over the work of the MERC, it is true that shifts in emphasis and responsibility were taking place. It is not surprising, therefore, that when one of these younger men came along with a proposal to establish a scholarly journal in music education, the MENC jumped at the chance. Warren relates this tie well, although it is doubtful if the present relationship between JRME and the MENC is as close as the author describes it. Historically there has been some overlap or duplication of personnel of the editorial board of the Journal and the Music Education Research Council. In fact, the editor himself was a member of the MERC before he became president of the MENC.

In reading this Warren Report, one is impressed with the great responsibility some men and women voluntarily assumed in guiding, yea pulling, the course of music history in this country. Without minimizing the efforts of many unnamed workers, the names of Gehrkens, Dykema, Morgan, Madison, Larson, Normann and Britton constantly appear in places where progress is reported--or at least where the action is. Our debt to these leaders is great.

Warren has not written the definitive works on these two subjects. This was not his intent. His was to write a comprehensive essay, historically informative, on the MENC and the JRME. In this he admirably succeeded.

Weber, Richard D. An Approach to the Use of Musical Instruments in the Education of the "Trainable" Mentally Retarded. Columbia University, Ed.D., 1966. Order No. 66-10,322.
Reviewed by Donald E. Michel

PROBLEM

The study purports to determine "whether the validity of certain learning assumptions could be established," and "whether (if established) this might be substantially different from accepted theory concerning the mentally retarded" (their learning ability). The assumption to be challenged was especially directed toward the learning of music. The study also was an attempt to discover how music might be used in teaching "trainable" retardates other learning skills such as reading (letter symbols, words) as well as performance skill on an instrument. Three basic assumptions were stated:

1. That all retardates could respond to familiar melodies,
2. That this response could be intellectualized to become the basis for further learning, and
3. That observable musical and behavioral growth resulting from such experience, could be anticipated.

Another general purpose was stated as the development of effective basic music methods and materials for teaching instrumental music to retardates, which would be simple enough to be used by non-specialized music teachers. A subpurpose of the study was "... to recommend further research...(based on) a review of the literature and...case studies."

DESIGN

The basic design of the study was twofold: development of new teaching materials, and testing them with subjects who were considered to be "trainable" retardates. The testing was not done in an experimental model but in a case study approach.

Two specific approaches to the problem were stated: (1) teaching a group of mentally retarded students who were labled "trainable" and "mongoloid" how to play instruments, and (2) teaching another group of mentally retarded students "of various etiology," how to play instruments, through demonstration-lectures. Methods of teaching were designed so that a possible transfer of training might take place, i.e., toward perception and learning of verbal and reading skills.

SUBJECTS

The subjects were five "trainable mongoloids," ages 10, 17, 19, 19, and 21, four girls, one boy. Another group of subjects not treated as case studies but in groups which the author taught at demonstration-lectures were presumably "of various etiology" as stated above.

EVALUATION

Tape-recorded teaching sessions, written records, and estimates of progress made in several areas, beginning with musical progress, were methods used to evaluate results of the work carried out in each of the five cases over a one year's period. From these records an analysis of common problems and their solution was made by the author.

REVIEW OF LITERATURE

After providing a definition of terms, the author reviewed music education and special education literature pertinent to his project, as well as a few music therapy references.

PROCEDURES

A chapter of "Methods and Materials" could be considered the general procedural description for this study, while another chapter, "Individual Case Studies," which follows, would correspond to the "Results" section of most investigations. Considerable detail is given to describing the author's method of teaching piano, clarinet, saxophone, and cornet to his students. He calls it essentially a six-note method, using a point and play technique. The latter procedure probably has been used by many music teachers. It was a matter of having the student match letters placed under notes in the music with keys labeled with letters on the instrument, using index fingers of both hands simultaneously (or sequentially). This stage does not require verbalization of the letters used, only matching them. The music used was always familiar to the student, i.e., songs and tunes, which he had previously indicated he recognized.

Re-labeling the same notes with other letters, or with number symbols, on both the music and the instrumental keyboard is the method used to extend the letters to include the entire alphabet (or series of numbers). The author acknowledges that this process may sound confusing to most music teachers but maintains that it did not confuse the students. (How later firm identification of written music symbols and conventional letter names on keys of instruments is accomplished is not explained.)

RESULTS

The investigator sought and reported background personal data on all five of his subjects, "including psychological makeup and previous training." However, he declared that he does not consider it essential to have such data, or even that it is preferable since his viewpoint is that it is more important "to have immediate, meaningful and successful experiences that will help smother past failures, both academic and social," although he doubts whether "the retarded, with their seeming inability to project into the future are really troubled by the anxiety of potential failures..." He further states his belief, however, that his subjects did seem to express memories of past failures by their reticence and "fear" in the first sessions.

The author contended that his method "... makes it impossible for the student not to find success both in performance and in human acceptance," and described how he used continuous positive verbal and social approval with the students. Before presenting the case data on the five subjects the author stated another opinion: that "the retarded" have many unidentified unevaluated but very positive abilities. He cited his experience working with many retardates and how they responded to music, and especially melody and familiar tunes.

CASE STUDIES

The first case, F, is said to illustrate the principle that "with a minimum of instruction... [responses to familiar tunes]... can be intellectualized to the point where the child looks at the musical symbol, identifies it, plays it, and exults!" This is a 19 year old girl, described as mongoloid, trainable, and limited to verbal responses of "hello", "goodbye", and the like. She is described as stoic and withdrawn, and in this way, like her mother. No test data on I.Q. is given. Previous experiences at the piano keyboard consisted of locating some of the notes from middle C. F liked familiar melodies, and learned to play on the piano such tunes as "Merrily We Roll Along" and "Jingle Bells" at her first lesson, following the teacher's special "point and play" technique. After a year of lessons her progress musically was to have gained a musical repertory of 150 pieces (presumably "intellectualized") and in "human terms" to have learned to express her emotions more freely, to enjoy her lessons, and to verbalize a few more words with her teacher.

The second case, J, a 10 year old girl, also mongoloid and trainable was the youngest. She began piano instruction, and soon recognized and seemed to like familiar tunes. She learned to play tunes not only on the piano, but also on the cornet, the clarinet, and the saxophone. In a year's time, she had learned more than 100 pieces, was able to do "self-teaching" and also to teach others (such as a prminent person in the national mental retardation movement). For her, it was stated "... the faculty of memory is now developed," and that she could spell the words with which she had become familiar in musical titles. She read music at sight, and there seemed to be some transfer of training in two-hand coordination to classroom uses of both hands together as testified to by her classroom teacher. Speech improvement over her stuttering also was noted. This was attributed to having her repeat the letters of the alphabet "... with rhythm and depth..." which had the effect of slowing down her speech and making pronunciation more articulate. (No other evidence of academic learning is given.)

The third case, P, was the only male. He was 21 years old, mongoloid and trainable. He had lessons on clarinet and piano, and seemed to gain improved concentration, improved self confidence, improved expression of emotions, a better "letter sense," and a renewed spark of interest in learning.

The fourth case, R, was a 17 year old girl, mongolid and trainable. She learned to play clarinet, and piano. She seemed to have progressed to improved discrimination of similar letters such as C and G, E and F, which are often confused by young learners. (Dyslexia or strephosymbolia). She also was described as having a speech problem, stuttering, but no specific improvement of this was noted. Her classroom teacher observed some of the music lessons, and this led the author to state that "... her perceptual growth can be measured by acquisition of left to right reading skills and the ability to play (musical instruments) without pointing."

The fifth case, D, was a 19 year old girl, also mongoloid and trainable. She was well enough adapted to be employed part-time in beauty parlors. She studied the piano, saxophone, and clarinet. In this case the outcome of the year of music instruction seemed not to be so satisfactory in its overall results. The girl's parents insisted on placing her in a school with higher demand level where she failed to meet their expectations of academic progress and became unhappy and maladjusted. In her case, however, as in the others, the performance "demonstration" where D played before an audience were justified by the author on the basis of their being motivational and a means of gaining social acceptance, approval from "normal" people.

COMMON PROBLEMS AND SOLUTIONS

A number of common problems among these five cases, and observed in the author's work with other retarded children in demonstrations, etc., were listed: lack of learning of the alphabet, inability to discriminate similar letter shapes, inability to read letters, inability to keep place on the page. Some of the solutions listed were to "make the student think out his solution," and the use of hand and finger pointing.

Some approaches used were described, e.g., with a withdrawn child the author ignored her non-response to his verbalizations, acting as if a response had occurred, and this seemed to bridge the gap until several weeks later when the child began responding.

With regard to related expectancies in existing curricula, the author found that "... in each case initial response and subsequent growth and change far exceed performance levels both planned and anticipated for this population..." especially in terms of musical response, but also in terms of "... ability to overcome perceptual problems through independent concentration..." He concluded that "... these multiple abilities offer a body of evidence in strong contrast to the kind of thinking which would (only) use rhythm band instruments to release energy..."

SUMMARY AND CONCLUSIONS

Thirty pages are devoted to this section which includes extended descriptions of the author's "six-note" method. It also includes more detailed comparisons of the author's system with other published approaches and systems. Another recapitulation of common problems and solutions is made, with a few more added at this point, such as confusion in moving from left to right, or down the page when following notes or words, and difficulty in keeping place in a series of repeated letters. The author's solutions are also described here, as a combination of his method and his personal approaches. Under a subsection "Review of Related Expectancies in Existing Curricula," more new material is introduced such as Mursell's theories about infant response to music. (This is referred to as a primary response to tone, which the author seems to interpolate as melody, to substantiate his basically melodic approach in the method he has developed.) Other references are introduced from special education and music therapy writers. These, along with an article quoted from the International Musician, are used to substantiate the author's contention that the only approaches to working with retarded children through music have been with rhythm bands and recordings. In fact, he finds that the articles imply that retarded children cannot learn conventional instruments. These approaches of therapists are dismissed with the statement "... this author's project is not focused on therapy for the emotionally disturbed child, but on music as learning or education."

CONCLUSIONS

The author concludes that his methods are easily transferable to teaching normal children as beginners on instruments. So far as implications for research are concerned he submits that the entire project stands as an implication, "because so much evidence has accumulated in direct conflict with existing theories and expectations."

Areas suggested for research include the perceptual, motor, concentration, mental health, and "other"--which includes speech and writing disorders. A final conclusion is that "... the work of this project has served to outline in concrete terms new ways in which the retarded can learn to learn. The evidence and the results are both empirical."

CRITIQUE

Anyone seeking the empirical evidence (and "results") claimed will likely be disappointed by this study. It resembles very little those research studies now called empirical, which demand rigorous, scientific approaches. With only five case studies, which are rather scanty in detail, the study hardly meets any scientific or objective criteria. Yet the work cannot be entirely dismissed as having no importance. It is at the least one person's report of efforts to develop a systematic way to teach retardates how to play musical instruments. Not that this in itself is unique, however, as the author contends. (The music therapy literature--see below--that the author failed to consider, contains many instances of this.) But the methods developed for simplifying the learning of instruments by beginners, and the attempt to connect this with the learning of other basic academic concepts are worth some attention.

It seems to this reviewer that the author failed to make the serious challenge to learning assumptions (presumably that trainable mongoloid retardates could not learn to play musical instruments, nor use this to learn other concepts), which was stated to be the main thrust of the study. Despite the strong statements he makes about his findings, the fault probably lies in trying to attack an assumption which is never clearly documented or defined. Also, while case studies do present some interesting and sometimes worthwhile findings they are seldom recognized as being valid data, unless more stringent scientific measures are taken to establish the changes in individuals being claimed, e.g., using pre and post measurements of behaviors, etc.

The failure to challenge assumptions may be due to an incomplete coverage of pertinent literature. A whole body of music therapy references is all but totally ignored. Eleven Yearbooks of the National Association for Music Therapy (1951-1961) contain many references to the uses of music with retarded children and adults, not only as therapy but also for that which is practically indistinguishable from therapy--the learning of music, and through music the learning of academic and learning skills.[1] Louise W. Fraser for example, is one therapist who described how music was used to teach writing to retarded children (1951).[2] NAMT journals have been published regularly since 1951 and contain many reported uses of music which go far beyond the use of the rhythm-band release of energy approaches cited by the author. Finally, the author's dismissal of music therapy as dealing only with the maladjusted would rankle many music therapists who have devoted many years to working with the retarded--not to mention the almost unforgivable implication that retardates may not be emotionally disturbed or that emotional disturbance may not in itself be retarding.[2]

The study is still worth some attention for the methodology that Weber developed. Some researchers may wish to actually test this method in comparison with others, even non-music ones. No one should look for a possible panacea in this method however, or in any other method for that matter. Most practicing music therapists and special educators use methods which seem to work for them, and hopefully, are willing to submit them to scientific evaluation. In the Weber method they may find an approach which they may wish to submit to such objective scrutiny.

FOOTNOTES

[1] Music Therapy 1951...1961. Yearbooks of the National Association for Music Therapy, Inc., Allen Press, Lawrence, Kansas, 1952... 1962.

[2] Fraser, Louise W., "The use of music in teaching writing to the retarded child," in E. H. Schneider (Ed.), Music Therapy 1960 (Lawrence, Kansas: Allen Press, 1961).

NOTE: The Weber method has been published in a commercial version: Sight, Sound, and Symbol, by Richard Weber, Follett Educational Corp., Chicago, Ill., 1969.

Welter, Paul Ray. Group Counseling and the Assessment of Affective Learning: A Preliminary Investigation of the Utility of the Taxonomy of Educational Objectives: Affective Domain. University of South Dakota, Ed.D., 1968. Order No. 68-14,455.
Reviewed by Charles R. Hoffer

Welter's study has three purposes. One, to determine if participants in group counseling sessions evidence behaviors that are classifiable according to the Taxonomy of Educational Objectives, Handbook II: Affective Domain by Krathwohl, Bloom, and Masia. Two, to find out if the levels of behaviors change during the period of group counseling. And three, to see if the pattern of communication within the group relates to the taxonomic level at which the group functions. Sixteen volunteers from Educational Psychology classes met once each week for eight weeks, and three judges, who were fellow doctoral candidates of the researcher, spent twelve hours in training for their task of classifying behaviors.

The results were mixed. The behaviors were classifiable by the judges who had had the twelve hours of training. However, whether the classifications are valid interpretations of the Taxonomy is questionable. For example, one could reasonably ask if "Feels himself a member of the group" or "Continuing desire to improve competencies" really belongs under level 3--Valuing. In fairness to Welter, it should be pointed out that some of the examples cited by the authors of the Taxonomy may also be open to question. Furthermore, it is likely that some levels may be not applicable to some types of affective learning.

The levels of behaviors did change. A slight decrease was observed in one measure and an irregular pattern in another. The changes were statistically significant.

The pattern of communication within the group did not change significantly.

As someone looking at the topic of group counseling with a fresh and admittedly untrained eye, this reviewer is struck by two points. One is the dismal record of group counseling in producing results under the rigors of experimental investigation. Welter cites fifteen studies of the effectiveness of group counseling. Only two of these provide any significant evidence of change, and one of the two studies has some highly questionable aspects. The other striking point is the vague structure and purpose of the group sessions. The researcher stresses the importance of "affective learnings" but never states what these learnings are.

Members of the group were invited to discuss matters of personal concern to them, and the counselor attempted to focus discussion on those topics which he perceived as making the greatest "psychological investment." However, the study involved no assessment of psychological or educational gains by group members.

The applicability of the study to music education is definitely limited. The techniques of the group counselor are dissimilar to those of the music teacher because their goals are different. The main value of Welter's experiment appears to lie in the fact that it supports some of the basic ideas of the Taxonomy. The notion of increasing involvement and commitment as one moves to higher levels of the Taxonomy proved to be a useful concept in group counseling. And it probably is in music teaching, too. However, the music educator will need to interpret and adapt the Taxonomy to the subject he is teaching. Slavish adherence to the original classifications is not necessary and would likely lead to some invalid statements manufactured to fit a particular subcategory.

The authors of the Taxonomy state that their efforts may lead to some learning theories; they do not say that they have developed a learning theory. There is a difference between the two positions. A taxonomy is a system of classifying and not a description of sequence, as is sometimes incorrectly assumed. Logically, Welter's study tends to disconfirm the idea of a sequence in the Taxonomy.

Wilson, Dean Clarke. *An Analytical and Statistical Study of the Harmony in Carl Nielsen's Six Symphonies*. Michigan State University, 1967. Order No. 68-4235.

Sterling, Eugene Allen. *A Study of Chromatic Elements in Selected Piano Works of Beethoven, Schubert, Schumann, Chopin, and Brahms*. Indiana University, 1966. Order No. 66-14,895.

Reviewed by Paul J. Revitt

I

In the field of chemistry, quantitative analysis is a valid path to ascertain the true constituents of a substance. Physical laws of bond insure predictable proportions, and repeated experiments verify consistent results.

The fundamental question raised by applying a statistical analysis to a work of art is whether or not the numerical results give a true explanation of that creation. If the limit of explanation is a table of percentages, the answer is yes. If the extent of the investigation is number, the answer again is yes. If the purpose is diagramed and tabulated comparison, the answer remains yes.

If, however, the explanation of a work of art is to be extended to terms of words, a language much more compatible with music, poetry, and the visual arts, the quantitative analysis is either a mere beginning or is not valid at all. It may be that, in this age when computer compositions and "wall paper" music with their contrived proportions and geometric designs of notation are increasingly becoming the mode of creative inspiration, a statistical analysis is the proper means of explanation. Of course it is; such music is conceived in these very terms at the outset. But, for the music of the nineteenth century (Beethoven, Schubert, Schumann, Chopin, and Brahms) and for the music of a conservative twentieth century composer deeply rooted in the ninettenth century tradition (Nielsen), a mathematical approach to explanation is much less valid. These composers did not work with slide rules and graph paper.

Music lends itself too easily to numbers. Our first mistake is to take half of what the Pythagorean School of ancient Greece said about music literally and conveniently ignore their mystical and cosmological attachments. Meanwhile, we seldom remind ourselves of the proponents of the Dionysian camp who offered less tangible evidence of something much closer to practice. Our second mistake is to study scholastic medieval treatises in which logic of speculation is more important than emperical fact. It does not occur to us that people danced in the market square and that the monks themselves corrupted texts and music of the liturgy.

In an age abounding with discoveries of natural principles, especially that of the polarity in magnetic attraction, baroque music theorists were influenced by contemporary teminology. They gave us a definition of music as an art (which moved the passions) and a science. Science, in their definition, meant the proper use of triadic harmony according to principles which had a counterpart in the polarities found in nature. Actually, these theorists were putting the older wine of established sixteenth century practice into the new bottles of seventeenth century terminology. Our third mistake is the borrowing of their figured bass, which was originally a performance convenience, and recast it as the basis of theory. We turn their block harmonizations of chorale melodies into text book examples, and let the numbers substitute for the sounds.

To explain music, we speak of triads and thirteenth chords, 6-4 inversions, and 4-3 and 7-6 suspensions. We describe by using words with definite mathematical meanings such as half-diminished and sequence. We add to the purely notational and exclusively music symbols such marks as primes, double primes, super and sub-scripts, --, +, °, ø. Not content with Arabic numerals, we employ Roman, both upper and lower case!

Our most recent mistake has been to consult a calculating machine to spew out numbers as an explanation of artistic creation. It is of value to know that 52 percent of all progressions in Bach's harmonizations of chorale tunes, a small and unique portion of his total writing, are in a dominant-tonic relationship. It is easily remembered because it is very close to the round proportion of half.
Is 52 percent valid for the *Chromatic Fantasy and Fugue*; will it cover the toccata which precedes the fugue in D minor; does it fit Contrapunctus XIX of the *Art of the Fugue*? What we remember in the "Crucifixus" of the *Mass in B Minor* are not the dominant-tonic relationships but those few uncanny harmonies that die away in awesome despondency.

Are the numbers, the proportions, the percentages, the tables, the diagrams enough to explain the music?

It is not the intent of this review to criticize the dissertations of Wilson and Sterling on the grounds of the methods of research they chose. The intent, rather, is to raise the more fundamental question about the validity of quantitative analysis applied to a work of art, a creation of man, not of a test tube.

II

Dean Clarke Wilson's dissertation on Carl Nielsen's six symphonies, an imposing tome of 410 pages, is organized on a consistent chapter plan. After two introductory chapters, one outlining the purpose, scope, method of analysis, and definition of terms, and the other presenting a short biographical sketch of Nielsen's life, each of the following six chapters is devoted to a symphony in chronological (also numerical) order of composition. The last chapter is a conclusion in which the evolution of certain compositional techniques characteristic of the personal style of Nielsen is not easily reconciled with the statistics compiled in the earlier chapters.

Each of the chapters concentrating on a symphony is on a similar plan. First, the symphony is discussed briefly as a whole, then each movement is discussed in more detail. Consistency is maintained in the tables which treat the various chords employed as harmony in the same order and in the tables which treat root movements between chords arranged by size of interval. Finally, an almost bar-by-bar analysis of the movement is presented to show structural outline with emphasis on key areas both temporary and on a larger scale.

Following each of the eighty-three tables is an interpretation of the numbers contained in them. All the more forceful, this interpretation brings to point the fallacy of purely statistical analysis. Inadequate as words are, they are nonetheless the closest that music, a language unto itself (especially in the minds of the nineteenth century romanticists from whom Nielsen inherited his aesthetic principles) can be approached.

Thirty-four short musical examples, reduced from the full orchestration to a two-staved brace, are scattered through the text with a preference for more illustrations for the earlier symphonies. Perhaps this preference is necessary to illustrate Nielsen's personal harmonic style which remains as a thread through his entire *oeuvre*, and once shown need not be repeated. Indeed, references to previously quoted passages are often employed to show continuing tendencies. And this preference is understandable in light of Mr. Wilson's opinion that the Sixth Symphony, while harmonically interesting, is "poorly organized when considered as a whole." (See page 401.)

It is curious, however, that the two symphonies which most impressed Mr. Wilson, the Third, representing "... an apex of the early period of the composer..." should have only four musical examples, and the Fifth, "... in this writer's opinion the most outstanding of the last three symphones..." should have only three. (See pages 400 and 401.) Why hide Nielsen's light under a bushel of numbers? Can't music do?

The bibliography, all on one page, consists of eleven entries, six of which are the scores of the symphonies (published by various presses in Copenhagen), three of which are standard general reference encyclopedias, a basic biography (by Robert Simpson; London, 1952), and Alan McHose's *The Contrapuntal Harmonic Technique of the 18th Century*.

A slight oversight might be pointed out in the bibliographical reference to *MGG*. Numbers in this encyclopedia refer to columns, not to pages. Also, *The International Cyclopedia of Music* is generally linked with its chief editor, Oscar Thompson, and not with Robert Sabin, the special editor of the ninth edition.

The dissertation ends with an appendix of four pages. As "Supplementary Chord Tabulations" and "Supplementary Root Movement Tabulations," they represent an extended analysis of the two huge movements which comprise the Fifth Symphony. In the body of the dissertation (See page 292.), one learns that 217 major triads in the total first movement make 63.5 percent of the triads; in the supplement, one learns that 100 major triads make 58.1 percent of the triads in the *allegro* first section of that movement. Similar differentials are found in comparing other triads, seventh and ninth chords, altered chords, etc. in the two tables.

Returning to the point of the fallacy of statistical analysis, one might observe that computations carefully carried to the first decimal place of a percent--and thus to the thousandth--are not borne out in the two musical sections. If absolute mathematical accuracy is the aim of such analysis, how can one feel secure in the face of a difference of 5.4 percent? To say that this is the difference between Nielsen's *allegro* and his *andante* (the second section) is absurd. The composer is not obligated by number and his sections in different mood and tempo are not dependent upon this form of calculation. Consequently, we feel deceived by the first table in the body of the text and shaken by the new information in the appendix. Then we ask, if all the other tables were presented in finer detail and smaller scope, would more differences of greater magnitude make one lose all confidence in numbers?

Numbers prove impossible. Words, however technical, are questionable at best. The romantic would say, "Listen to the music, and the heart will tell you." Perhaps the Chinese poet was right when, asked by an occidental who criticized the vagueness of the oriental language, replied, "For all of your precise definition of words and syntax in structure, do you understand each other the better?" What would he have said of numbers?

The criticism of Wilson's dissertation to this point has been on grounds for which he is not responsible. A victim of numbers that have already replaced words to the extent of proper nouns and the loss of our very individual identity, he reflects the mode of mid-twentieth century thought. This is acceptable, albeit with difficulty. However, he has been a victim of carrying this arithmetic to an extreme which he should have avoided. His guide, which has been used too frequently as a model for musical explanation, was the statistical method of Alan McHose. In this case, the fault is not in the numbers, not in percentages, nor in the method of McHose. Rather, it is a matter of historical and stylistic considerations.

Why does Wilson compare the frequency and the kinds of triads and chords of Nielsen in his study with those of J. S. Bach in McHose's findings? Does not a gap of one hundred fifty years change matters in art? Is there no difference between the block harmonies of a short Lutheran chorale and an expansive nineteenth/twentieth century symphony? Alan McHose himself would never subscribe to this comparison.

Beginning on page 42, Wilson cites the percentages tabulated by McHose in The Contrapuntal Harmonic Technique of the 18th Century. He states the growing prevalence of the seventh chord from baroque times to the nineteenth century, which to any musician needs no statistical proof. Then, because McHose couldn't find suitable ninth and eleventh chords in 371 chorales, he does not know whether to be dismayed or proud that Nielsen's First Symphony doesn't have many, either. Moreover, as if to refute historical trends, Wilson's numbers indicate that Nielsen progressively used fewer seventh chords in the first three symphonies. These are the wrong parallels. In other words, this particular aspect of harmonic evolution by which Nielsen is compared with himself and by which Nielsen is compared with Bach on one hand and his contemporaries on the other is neither convincing nor conclusive.

Almost chastizing McHose for not delineating the rare augmented sixth chords in Bach literature, Wilson overlooks their evolution during the intervening century. He is amazed that Nielsen prefers the French to the Italian. The explanation is in the palm of his hand and percentages have nothing to do with it. He has admitted the growing use of the seventh chord. The Italian augmented sixth is a three-member chord (a triad); the French, a four-member chord (a seventh chord). Nielsen was doing only what came naturally; triads were passe after Mozart and Haydn left the musical scene.

The Sixth Symphony, which seems to be a special case, harmonically speaking, shows "... some notable advances both in the types of chords as well as the frequencies with which they are used," and "... in general shows growth--in a modern direction--clearly evolved from tendencies found in the composer's earlier symphones." (See pages 324 and 325.) But the formula of interpretation established for the first five symphonies was not sufficient to cope with the new findings in the sixth. At the very point that he could prove a real thesis, Wilson flags and dismisses the symphony by saying that it is a "... very controversial work written in a time of sickness," and takes embarrassed refuge in the statement that "Since the primary work of this treatise is description rather than evaluation, it would not be appropriate to discuss the artistic value..." (See page 325.) No one asks for a value judgment. What is expected is the promised description with the statistics converted into relevant meaning. If the Sixth Symphony is different than the others, why not make a study of it on its own merit and then compare it with the others? That Wilson was looking for an evolutionary line of harmonic practice and was slightly disappointed is evident to the following statement about the Sixth: "It is at best an experimental work and unfortunately there is no seventh symphony to crystallize the tendencies found in the sixth." (See page 401.) Yes, unfortunate for the "artistic value," but perhaps fortunate for the tables of numbers.

Why, in a dissertation so reliant upon statistics, does the conclusion not include total comparative tables to wrap the entire study up at least in the discourse of numbers? Descriptive words, put together in syntactical relationship rather than in tabulation, finally come to the rescue. Percentages to the decimal point become "tendencies." "More" and "less" substitute for detailed comparisons. "Implications" are the broad sweep over incongruities and inconsistencies. The styles of Dvorak and Brahms are brought into aural memory to account for the early symphonies, and the treatments of tonality in the last three "... tend to resemble those of Vaughn Williams, Prokofieff, or even Shostakovich." Numbers retreat and the "artistic value" which Wilson tried so valiantly to avoid raises its beautiful head: (See pages 392, 393.)

> The steady increases of triads and corresponding steady decreases of seventh chords which occur from the first through the fourth symphonies at first seem to indicate regression rather than progress. However, seventh chords, especially the major-minor type, were perhaps overused by the end of the nineteenth century, and decreases in their use may be regarded as progressive in implication by getting away from some of the rather lush harmonies of those times. This writer finds the simpler and more straightforward sonorities of the third symphony rather refreshing.

Wilson is to be applauded for this statement. "Lush" is the comparative description for the harmonic language of composers after Wagner. And Wilson is entitled to a personal opinion that "refreshing" is the comparative description of Nielsen's early symphonies. The speculative explanation for the reversal in the frequency of seventh chords is legitimate in light of Nielsen's attitude toward composition and the circumstances in which he wrote.

No number, regardless of its distance either side of the decimal point, will ever substitute for descriptive terms. It is remarkable that statistics bring some facts to light. But they are merely the beginning and ultimately the numbers require interpretation which relies not only upon words but a concept of style in music history, the value judgments occasioned by aesthetics, and the sense and experience of the musician.

More is to be said in a positive and complimentary criticism of this dissertation. Wilson recognized the ambivilant chords which could be treated either modally or as part of a restricted form of chromaticism. He bares the theoretical problem of an added sixth to a triad. It is not clear why he chose the word "sonority" as a term in his analysis (not, however, in the quotation just cited in this review to indicate chromatic changes in thirds and fifths of triads) when that word is usually associated with quality of sound. But, his meaning is precise and consistent, and with it he comes to grip with one of the perplexing problems of harmony which arise by a quasi-contrapuntal movement of members of the basic triads: when the root changes, the harmony has changed, but chromatic alteration of either of the other members, however devastating, changes only the "sonority" of the triad. His discussion of simultaneous cross relations (See pages 27, 28.) is related to "sonorities" although he doesn't say so and although he does not develop this beyond his classification of statistically computed frequency of use, its recognition is a major stepping stone into a more thorough understanding of late nineteenth century and early twentieth century harmonic practice. The greater frequency of these types of progressions in the Sixth Symphony (1924-1925) show by implication the belated modernization of Carl Nielsen.

Carl Nielsen is immortal. Not only has he withstood the vicissitudes of his personal life, the statistics of analysis which have probed his ambivalent modal and chromatic harmony, the loose sonata-allegro structures, the comparison with Bach and Shostakovich, but he apparently lives on. No date of death is given in the biographical sketch of Chapter II.

III

The dissertation of Eugene Allen Sterling deals with chromatic elements in selected piano compositions by Beethoven, Schubert, Schumann, Chopin, and Brahms.

The content of the 246 pages is also based upon a statistical study. Whereas Wilson confined himself to a single composer and his symphonic works and thus limited his problems to an individual style, Sterling had a more complex problem in discussing the great representative composers of the nineteenth century. That the works chosen are representative of the piano medium is no compromise on the harmonic study involved.

The thirty-eight statistical tables are followed by so much interpretation that the inadequacy of raw numbers is abundantly manifest in the pages of enumerated observations and qualifications. For example, on a fraction of page 187, three lines of statistics in six columns require sixteen entries of single spaced typewritten explanation covering all of page 188 and a portion of page 189. This is not an isolated or extreme example. See Tables III through VIII, page 79 followed by 80 and 81, page 90 followed by page 91, page 116 followed by 117, and many more.

One hundred three musical examples drawn from a remarkably large selection of piano works by the composers mentioned in the title are analyzed in the traditional manner and clearly illustrate the harmonic principle in question.

The bibliography of four pages includes works used as illustration and a goodly amount of reference to recent periodicals and less accessable information in unpublished dissertations.

Several appendicies conclude, the first four being remarkable in that they are concordances of musical passages quoted in the dissertation illustrating in orderly diminishing frequency the relative amounts of neatly classified chromaticism. The final two appendicies are a glossary of symbols and terms used in the dissertation.

The first of two introductory chapters is devoted to the definitions of chromaticism. Passing through necessary pedantic paces of presenting various probing definitions starting with Webster's International Dictionary, Sterling settles upon the one given by John Clough (in the first issue of the Journal of Music Theory, March, 1957) modified by modal considerations discussed by John Vincent (in The Diatonic Modes in Modern Music). Exactly how applicable mid-twentieth century definitions are to the music of one to two hundred years ago (omitting a peripheral reference to Di Lasso's Bon Jour Mon Coeur as Example No. 19) is a debatable question. But Sterling soon leaves modern theory and accounts for the music in the traditional analysis which approaches the concepts in which it was created.

The following seven chapters, in which chromaticism is treated systematically from "non-chordal" to "fundamental" and "enharmonic," require careful steering through the vast harmonic labyrinth the nineteenth century presented to posterity. Sterling is successful within terms of his definitions in showing its evolution and the frequency with which it increases.

Sterling reaches his conclusions in a complicated way partly because he commences with diatonic non-chordal tones. Feeling it necessary to approach chromaticism in this manner, he lays a foundation for his later comparisons. He may be at fault, however, in backing up too far. (See Tables I, and III through IX.) His next step is to treat "traditional" chromatic alterations such as necessary to create change of mode, secondary dominants, half and fully diminished seventh chords, Neapolitan chords, and the various nationalized augmented sixth chords. His final step is into the type of chromaticism which he describes as "decorative" and of which he finds Chopin the leading exponent.

Mozart serves only as a springboard, and Table II disposes of his chromaticism with the same clarity that one hears it in the first movement of the F major Piano Sonata (K. 280; 1774). The choice of examples for analysis from the composers mentioned in the title is a fair cross section of their works. However, the examples quoted from Beethoven lean more heavily on the Diabelli Variations and Op. 106, the Hammerklavier Sonata, than on the earlier work, Op. 54, Sonata in F major.

Sterling, too, finds the statistical method wanting. Three pages before the end of his dissertation he concludes, "... valid comparisons involving the significance of percentages in seemingly comparable categories are difficult to make." He enlarges upon this statement by showing subtle relationships that the numbers do not divulge. He, too, realizes that the numbers give only raw results in one isolated direction. He, too, is faced with the personal style of the individual composer and must leave the precise but misleading numbers in favor of the indefinite but more truthfully comprehensive worded description.

One hopes that Sterling's precise detail of arithmetic is not as inexcusably careless as the copied notation in some of his musical examples. In a random check, a considerably high percentage (11 in 103, or 10.679611650485436893203883495145631067 + percent, it being at about this point that the number proves itself to be a periodic decimal) were found.

Example 12, Beethoven, Diabelli Variations. The third note of the long group over the beams should be a g natural, not g flat.

Example 33, Beethoven, Diabelli Variations. The low F's in the bass following the rests should be sharped.

Example 35, Chopin, Prelude, Op. 45. In the first bar the grace note is d sharp to c sharp, not f sharp to c sharp, and the last note of the quotation should be a sixth with an f sharp under the d sharp.

Example 42, Beethoven, Sonata in B flat, Op. 106. A triplet bracket should be under the quaver rest and the two following quaver notes in the bass.

Example 44, Chopin, Prelude, Op. 28, No. 8. The entire bass line, while true to the harmony is not in the rhythmic pattern written by Chopin.

Example 45, Brahms, Sonata, F sharp minor, Op. 2. The penultimate treble chord should be an expansion of the V^7 to V^9 by a change of position which includes a g natural.

Example 63, Beethoven, Sonata, B flat major, Op. 106. The triplets in the bass at the beginning should have another beam to make them semi-quavers.

Example 65, Schumann, Toccata, Op. 7. The bass note in the second half of the first full bar should be an octave skip, a to A, not a skip of a sixth, a to c.

Example 80, Chopin, Etude, Op. 10, No. 6. The last two semiquavers of the treble should be d flat rising to d natural, not d flat rising to e natural.

Example 98, Chopin, Prelude, Op. 28, No. 17. The treble in the second half of the first bar is miscopied and makes the tonic chord in the analysis appear far simpler than it actually is.

The accuracy of the percentage in computing notational mistakes, although carried to the thirty second decimal place where the quotient begins to repeat itself in an endless cycle, is inadequate in the same way as Sterling describes in the closing pages of his dissertation. Significant features do not emerge. This number does not indicate that there were two mistakes in Example 35. It does not differentiate between mistakes in rhythm and mistakes in pitch. It does not indicate the degree to which the wrong notes affect the harmony and its analysis. Moreover, the four musical examples from Mozart and

Di Lasso in the early chapters may well be thought of as not belonging to the one hundred three inasmuch as they do not have a direct bearing upon the full focus of the dissertation. And, if this is the case for Mozart and Di Lasso, how much more it is true for Example Nos. 1 and 48 which are purely abstract and serve as means of describing chord symbols and basic theory. Last, the check has been made at random, which in itself poses problems of the reliability and validity of probability.

IV

Both of these dissertations show evidence of long hours of mathematical exercise. Prior to this admirable work were decisions of choice of representative literature and the bewildering organization of the method of investigation. The next step, the harmonic analysis, laid the foundations for the computations. In final form, tables with columns of numbers do not flow from the typewriter as easily as descriptive words, even if those words are embellished with technical language and specialized symbols.

The results only confirm by number what the musician has long known from experience. The general style of Carl Nielsen is conservative turn-of-the-century German, his Fifth Symphony being one of the most outstanding, and the Sixth being odd but acceptable in this framework. Beethoven's harmonic language undergoes tremendous change at about the time of the composition of the Hammerklavier Sonata (1818) and reaches a twentieth century height in the 20th of the Diabelli Variations (1823). But the same startling evidence of "regression" that faced Mr. Wilson when he discovered a greater frequency of triadic harmony in Nielsen's first symphonies would greet Mr. Sterling if he started an harmonic analysis of Beethoven's Consecration of the House Overture (1822). In this work the "late Beethoven" shows itself in other aspects of composition; the harmonic percentages would absolutely lie. Schubert developed his own unique style of chromaticism, and analysis, to fit his particular compositional techniques, is not so much dependent upon chord-to-chord relationships but, as Sterling had to discover, on little "cells" of tonal areas which include several related chords. Schumann, by the percentages, is "conservative," but his personal style incorporated an harmonic rhythm which changes the sound of the progressions. No musician will refute the conclusion that Chopin was a leading chromaticist, especially in the keyboard filigree which is associated almost exclusively with his personal style. The romantic waters of Brahms run deep, but unfortunately the numbers only show him "average."

If number, carried to places beyond the decimal point, is the proof that the twentieth century needs for its understanding of natural and artistic phenomena, the work of these men has not been in vain. The dissertations stand as documents of the age they represent. Let us now hear the relatively unknown symphonies of Carl Nielsen and the less hackneyed piano compositions of Beethoven, Schubert, Schumann, Chopin, and Brahams.

Werner, Robert Joseph. A Comparison of Value Judgments Concerning Music Education Made by Senior Students and Professors of Music Education in Illinois Colleges and Universities. Northwestern University, Ph.D., 1967. Order No. 67-15,366.
Reviewed by Joseph W. Landon

Teacher training programs in the past decade have borne the brunt of increasing student criticism--perhaps with some degree of justification. Whether "relevancy" and the feeling of what is "right, just, or applicable" is the paramount issue, certainly it can be observed that young persons of the current generation are more vocal about concerns which affect their future careers than at any time in the history of American higher education.

Perhaps due to the lack of a universally accepted framework of educational goals in the arts, music educators frequently do not communicate sufficiently with their students in the important areas of philosophy and aesthetics. Little wonder that the profession lacks younger spokesmen who can articulate or demonstrate general aesthetic principles in their teaching, yet who are quick to declaim such deficiencies in others. We can ask then, "How good is the model?" And, if this new generation of teacher candidates is immune or oblivious to the total value system and variety of learning experiences by which learners shape their own aesthetic judgments, how then can school administrators or the lay public be expected to know about and support such programs?

Werner addresses this problem in his study, posing the hypothesis that there is not only a lack of basic philosophy in music education, but that there is also a need for a well-defined set of values among various segments of the music profession as a whole. The purpose of his study was to test the null hypothesis regarding value judgments of senior music education students and music education faculty in Illinois colleges and universities. Comparisons of responses to a set of thirty value statements were attempted among students, professors,and between students and professors.

Cited as evidence of need for the investigation, Werner points to the numerous contradictory beliefs concerning how and whether music shall be taught and supported, as well as to the age-old problems of "what, when, and how". The need to escape purely mechanical or vocational functions of music instruction, which are frequently unduly emphasized in highly performance-oriented programs, is an important aspect of the problem.

METHOD AND PROCEDURE

The author, who formerly taught in the Evanston Township schools and now is in higher education, has achieved considerable recognition for programs which stress both aesthetic sensitivity and musicianship. It is not surprising, therefore, to find in his review of the related literature a first-rate selection of references stressing both philosophical and aesthetic considerations.

It is interesting to note, in the author's words, that "... it would appear that the area of philosophy of music education is only in its most embryonic stage" and, while "... there are references to the subject to a greater or lesser degree in many books, ... these references are usually rather vague and general in their approach."[1] Assuming the verity of such a statement, it is high time to have such a worthy topic explored!

The study was conducted by means of questionnaires sent to all thirty-one four-year colleges and universities in the state of Illinois, selected as having specific music baccalaureate degrees leading to teacher certification. The survey instrument was distributed to all seniors in music education as well as to the music education department faculty in these institutions.

Respondents were asked to react to a group of thirty statements chosen from four basic sources which, from the review of the literature, appeared to be most representative of current value systems in music education.[2] These statements were organized into the following categories:

1. Aesthetic sensitivity
2. Curriculum considerations
3. Performance emphasis
4. Implications for teacher training

The validity of the thirty statements was not a factor. Items were randomized to eliminate "sets" of responses and were presented in the original, paraphrased, or made negative in order to secure individual thought response rather than recall.

Respondents were asked to react to statements on a five-point scale of "strongly agree, agree, undecided, disagree, and strongly disagree." The information thus obtained was placed in contingency tables and analyzed by non-parametric means (chi-square formula) to determine whether responses of students, professors, or between students and their professors were significantly different.

FINDINGS AND CONCLUSIONS

In general, student responses to the Werner investigation showed a remarkable degree of agreement to the thirty items of value judgment and basic philosophy. Students agreed to 77 percent of the thirty statements, 23 percent lacked agreement, and only 7 replies among the total number of respondents showed a spread or lack of understanding of items.

The professors' responses were even more uniform, 80 percent agreeing to the thirty statements presented. Thus, individually evaluated, the student-faculty responses were remarkably in agreement.

Comparative responses of students vs. faculty, however, revealed some basic differences between the two groups of respondents in terms of their assessment of their musical and educational preparation. The consistent source of disagreement and concern appeared in the area of curriculum where three-fifths of the responses to five basic questions differed at a statistically significant level.

Whereas 60 percent of the music education professors felt "music education methods" to be the single most beneficial music education course, only 28 percent of the students selected this item. Although methods received the greatest number of "most beneficial" student responses, this course was followed closely by student teaching, music theory, and music history, with performance trailing considerably behind. Regrettably, none of these courses was selected by the professors. From this, it might be concluded that very little importance is attributed to basic academic music subjects in shaping the objectives and values of students, although students themselves consider these subjects to be important contributors to their over-all training as prospective teachers.

"Curriculum considerations" in general were cited by an overwhelming majority of students as a basic issue in their listing of unresolved areas in music education today. Also felt by them to be of great importance was their listing of both "curricuum" and "aesthetics" as the two areas of highest value in music education, despite their generally expressed concerns about how the latter could be effectively incorporated into the curriculum. There was somewhat general faculty agreement with students upon the importance of these two areas.

Thus, in the words of the author:

With both groups putting such importance on aesthetics in music education, it is interesting to note that most teacher training curriculums offer no required training in this area at all, at least not in formal course work.[3]

The consistent source of disagreement between senior music majors and their professors concerned statements in the area of curriculum where statistically significant differences were found in 16.7 percent of responses to statements. It is interesting to note the five items on which these differences were registered. These were:

Item 7: "The ability to shape a phrase so that it has feeling (aesthetic) import gives us little indication as to the development of appreciation of music by the performer."

Item 18: "A better insight into music will best be achieved by the study in depth of a limited repertory."

Item 27: "The central meaning of music education depends on its constructive influences in the present not necessarily in the future."

Item 29: "Our present listening materials at all levels of public school music should be replaced for better results."

Item 30: "Music in the elementary grades can be taught satisfactorily by classroom teachers."[4]

Statistical comparisons by application of the chi-square tests between faculty and student responses in the four major areas under which the thirty items were classified revealed the following:[5]

Aesthetic considerations: chi-square = .02
Interpretation: no significant difference between the two groups.
Curriculum considerations: chi-square = 18.13
Interpretation: significant differences at .05, .01, and .001 levels. Differences between the two groups is highly significant.
Performance emphasis: chi-square = 3.19
Interpretation: no significant difference between the two groups.
Teacher training: chi-square = 3.51
Interpretation: no significant difference between the two groups.

Some of the curriculum concerns mentioned specifically were:

1. A lack of continuity between areas of instruction and a sequential organization of musical learning K-12.

2. Performance courses versus general music offierings.

3. Music's place in the total curriculum.

4. Problems in the amount of time allotted to music.

5. Music's role as part of the humanities and not as an isolated subject.

6. Controversy between the emphasis on musical skills, musical knowledge, and musical feeling.

With respect to the evaluation of these responses, Werner correctly raises two points, namely, that agreement does not necessarily negate the likelihood of a great deal of critical thinking on fundamental issues, but that, confronted with "real" situations, the lack of basic agreement on fundamental curriculum issues may prevent students from acquiring the necessary tools and rationale required for successful teaching.

COMMENTS

Is the age-old dichotomy of theory versus practice still the bugaboo of college music methods classes? The quick answer is "No", but it must be immediately qualified. Dr. Werner's study provides keen analysis and insight into areas which are often poorly-articulated and into nebulous philosophical constructs which are frequently bypassed in methods courses for the more obvious. The question which must always be asked in presenting such instruction is, "Are students gaining prescriptions to solve hypothetical problems or are they acquiring basic guidelines by which their entire future teaching careers will be influenced?"

The fact that a great deal of agreement between Illinois professors and students was discovered is indeed encouraging. Yet, while on the surface these commonly shared values appear to vindicate the direction of teacher training in music, the undercurrent of unrest in the issues of curriculum and aesthetics should dispel complete complacency. It may be assumed that if replicated, a similar reaction to these values would be found outside of Illinois.

Dr. Werner has made effective use of a wealth of bibliographic references, well-selected from the fields of education, music education, philosophy, and aesthetics. He is to be commended for the thoroughness with which the research design was formulated and the care with which his evaluation was done. Certainly this study should be examined most thoroughly by persons responsible for music education curricula in our colleges and universities and by all music teaching staffs, including persons in musicology and performance. Since all such persons share in the preparation of teachers of music, Werner points out that:

> ... the development of similar value judgments [which] would provide a common purpose to the curriculum needs and a direction for the solution of [these] problems.[6]

Perhaps it is possible to integrate the theory and practice of music more meaningfully if, in the student's own training, it is possible to observe that the study about, as well as the performance of, music is approached by their professors from the same basic premise. It would seem evident that music, as an aural art, has a core of aesthetic principles and values and that its teaching at any level involves the most suitable means of transmission of the affective qualities of the art itself. Just how these values are transmitted most effectively at the levels at which prospective teachers will be involved therefore becomes the central theme of our music education programs.

It is to be hoped that Werner will continue his investigations in this area and that additional research will be attempted in helping to define more precisely ways of transmitting these values into musical performance, academic investigation, and teaching situations. Perhaps Abraham Schwadron, quoted by the author, has the answer when he states that:

> The preparation of the teacher of music, so often compartmentalized into narrow areas of specialty, must be broadened sufficiently in order to cope with the complex phenomena of aesthetic judgment and value oriented education.[7]

FOOTNOTES

[1] Werner, p. 11.

[2] Nelson B. Henry (ed.), Basic Concepts in Music Education, The Fifty-seventh Yearbook of the National Society for the Study of Education, Part I (Chicago: The University of Chicago Press, 1958).

Charles Leonhard and Robert House, Foundations and Principles of Music Education. (New York: McGraw-Hill, 1959).

Claude Palisca (ed.), Music in Our Schools: A Search for Improvement. (Washington, D.C.: United States Government Printing Office, 1964).

Karl D. Ernst and Charles L. Gary (ed.), Music in General Education, (Washington, D.C.: Music Educators National Conference, 1965).

[3] Werner, p. 84.

[4] Werner, Table No. 30, p. 91.

[5] Werner, pp. 89-90.

[6] Werner, p. 112.

[7] Abraham A. Schwadron, "On Relativism and Music Education," Journal of Research in Music Education, XIII, No. 3 (Fall 1965), p. 133.

Zumbrunn, Karen I. F. A Listening Program in Twentieth Century Art Music for Junior High School Students. University of California, Ph.D., 1969. Order No. 69-18,994.
Reviewed by James B. Fitzpatrick

INTRODUCTION

Dr. Zumbrunn studied the effects of a taped, guided listening program in twentieth century art music on seventh grade students. She postulated that:

> ... junior high school students receiving guided, analytical listening in twentieth century art music would show a greater understanding of representative works from the seventeenth, eighteenth, and nineteenth centuries, as measured on a test of aesthetic judgments in music, than students receiving other listening instruction, other music instruction, or a zero control group not exposed to music instruction. (page 1)

Thus, this study was based on two assumptions: (1) music appreciation could be attained through teaching listening skills, and (2) the use of twentieth century art music as a means of understanding all music might be more appropriate for the junior high school level than other approaches. This research, conducted during the Spring of 1968, was supported by a grant from the Department of Health, Education, and Welfare. It appears to be an outgrowth of George Kyme's federally-supported project.[1]

METHOD

Four treatment groups were drawn from the seventh grade population of five junior high schools in the San Francisco Bay area public school systems. One class from each school was randomly assigned to the experimental treatment; the other classes in the same school were randomly assigned to one of the three reamining groups which were used for control in this research.

The experiment consisted of the pretesting, training, and posttesting of four treatment groups which may be identified as follows:

T1: The experimental group which received guided, taped listening lessons in twentieth century art music. (N=226)

T2: A control group which received Leonard Bernstein taped listening lessons exclusive of twentieth century art music. (N=132)

T3: A control group consisting of "typical" general music classes taught by either music specialists or classroom teachers. This group did not receive any guided listening experience. (N=201)

T4: A zero control group which was not exposed to any formal music instruction during the period of the study. (N=38)

To determine the effectiveness of the program on various populations, the children were classified into three socioeconomic categories according to parental occupation. (Children with unemployed or deceased parents or guardians were disregarded in this aspect of the research.) The socioeconomic groups may be identified in the following manner:

Group I: Professional and college-educated
Group II: White and blue collar workers
Group III: Skilled and unskilled workers.

Of the five schools involved in this experiment, schools A and B were both approximately 55 percent Negro, with the majority of parents belonging to socioeconomic category II. School C was a racially balanced school in which most of the parents also belonged to category II. School D was populated by children from a lower middle-class Caucasian population. Thirty-one percent of their parents were placed in category I, while 63 percent were assigned to category II. The fifth school, school E, contained students who came from professional families. There were few nonCaucasians in the school; 69 percent of the parents were in category I, while 31 percent were assigned to the II category.

The experimental group (T1) received two half-hour guided listening lessons per week for a period of nine weeks. All music and commentary presented to this group was on tape. Each musical work was accompanied by brief comments on stylistic elements, a discussion about the composer, and historical information. Styles included in the experimental curriculum were Impressionism; Nationalistic music including works by Bartok, Americans such as Piston, Gershwin, Ives, Luening and Cage; jazz and folk music artists such as Louis Armstrong, Count Basie, Memphis Slim and Josh White; Hindemith and Gebrauchmusik; atonality and twelve-tone music; the various styles of Stravinsky; electronic music; and percussion ensemble music. Some of the concepts presented in the taped program were three-part form, theme and variation form, counterpoint, program music, sprechstimme, parallel chords, ostinato, concerto, sonata and symphony.

The second treatment group (T2) was exposed to nine taped recordings of Leonard Bernstein's Young People's Concerts. Each tape, which has a running time of approximately an hour, was presented in two half-hour segments on alternate days each week for nine weeks. All nine Bernstein tapes contained only pre-twentieth century art music.

T3 experienced the regular content of a general music course minus any guided listening instruction. This group was instructed by either a music specialist or a classroom teacher. The training was focused on singing and other student-centered activities.

T4, the zero control group, received no formal musical instruction during the period of the experiment.

To test the hypothesis that there would be no significant difference among the four treatment groups, the data were analyzed by means of analysis of covariance, using pretest scores on the sixty-two item tape-recorded test as the covariate.

The basis of the measuring instrument was the Kyme Test of Aesthetic Judgments. It is a fifty-three item instrument with a a Spearman-Brown formula reliability of .80. Each item presents two versions of a musical excerpt with one of the renditions mutated in some manner. The subject selects which of the two versions he prefers. A third foil--which is never the correct response to an item--is available if the subject feels both renditions are the same.

Dr. Zumbrunn added nine items based on contemporary music to the Kyme test for this study. Unfortunately, these nine items detracted from the reliability of Kyme's instrument. The Kuder-Richardson formula 20 for test reliability yielded a coefficient of .69, based on the administration of this sixty-two item instrument to the 326 subjects involved in this research project.

RESULTS

While there was some difference among treatments, in no case was the difference in favor of the experimental curriculum significant at the .05 level. In school D, the Caucasian lower-middle class school, the results of the zero control group (T4) were significant at the .05 level while the experimental group from the same school did not appear to change. The greatest gains in the experimental program were made in the two inner-city schools (B and C); however, the highest adjusted mean scores were found in the two all-white schools (D and E). The experimental program did not appear to be effective with the high socioeconomic group in school E. In contrast, both the Bernstein tapes (T2) and the humanities program of the general music class (T3) yielded scores significant at the .01 level in school E.

An analysis of the responses of the experimental students (T1) to the Kyme test items--items which emphasize works from the eighteenth and nineteenth centuries--reveals evidence that the training involved in the guided listening program in contemporary music did not transfer to music of the past. Analysis of the nine contemporary music items written by Zumbrunn reveals that the total growth which occurred from pre- to posttesting of the experimental group was due to improvement on these nine items. In any case, the hypothesis that junior high school students receiving guided, analytical listening instruction in the twentieth century art music would show a greater understanding of representative works from the seventeenth, eighteenth, and nineteenth centuries...than students receiving other listening instruction, other music instruction, or a zero control group... was rejected.

As a result of weekly meetings with each teacher involved in the research, the investigator reports of the possibility of alienation of students by the tape recorder.

> ... It appears that the fact that the test was taped and the lessons of the twentieth century art music curriculum were also on tape had adverse effects from the point of view of attentive listening and motivation in the final testing situation. All teachers reported that the students in the listening classes (T1 and T2), experiencing a great deal of exposure to the tape recorder, resented the two-day duration of the final taped test even more than the other students who experienced a general music situation with attendant varied activities, such as singing or composing (page 74).

Concerning the effect of taped material on student attention, Dr. Zumbrunn offers the following observation:

> ... All teachers felt that the students often became bored with the routine of taped lessons. They believed that the use of an all-taped program may have damaged the positive reactions of students towards the content of these lessons. Passive learning in music seemed not to be as effective as modes of learning that called for participation and ego involvement (page 75).

CRITIQUE

Basically this is a good curriculum study; Dr. Zumbrunn set out to evaluate the effectiveness of a particular program and she did just that. She did not find the kind of encouraging results most researchers hope to find; however, she earned the respect of this reviewer by the way in which she handled her report. The results are presented in an honest, objective and direct manner. In her interpretation of the data, Dr. Zumbrunn displays exceptional sensitivity to the problems of her study.

This study, however, is not without flaws; some of these are more important than others. Several of the major weaknesses of this study are presented in the following paragraphs.

A number of excellent dissertations on listening programs and junior high school curricula exist which were not mentioned in this study. Studies by Glidden,[2] Fitzpatrick,[3] Motycka,[4] Evans,[5] Haack,[6] Hanshumaker,[7] Pearman,[8] Ramsey,[9] Robertson,[10] and Saltzer,[11] for example, might have presented enough documentary evidence to Dr. Zumbrunn of the inappropriateness of pure tape-recorded material being used as the sole method of offering instruction to music students.

Kyme pretty well established the weaknesses of Bernstein's tapes as effective teaching material in junior high school classes comprised of students from middle, or lower socioeconomic cultures. While, in a single case, the Bernstein tapes did show significance in this study (in school E, the upper socioeconomic school), these tapes appear to be too sophisticated for the average seventh-grader. Despite Bernstein's excellent performances, these tapes need "interpretation" by a teacher to the average general music class.

Unfortunately, the basic design of the study did not permit identification of the students who were affected by the experimental treatment. We readers only know how students reacted to the material on a school-by-school, socioeconomic basis. Did the girls involved in the study take to the experimental material better than the boys? Were the instrumentalists more, or less, successful than their non-playing peers? These are questions worthy of attention in a study concerned with a required general music course on the junior high school level; unfortunately, they are not answered in this study.

In a curriculum study, the use of a pretest score as the covariate in an analysis of covariance is questionable. A different measure of the sample population used as the covariate--school achievement, for example--might have provided an enlightening dimension to the study.

A prominent weakness in this research is the glaring omission of the experimental curriculum in the report. The text of one lesson on Bela Bartok is presented on pages 54 to 56 in the study; the remainder of the experimental curriculum material is nowhere to be found in the dissertation. It seems logical that a curriculum study should contain an accurate description of the actual materials taught in the classroom. The presence of such material in the final report would facilitate replication of the study, as well as offer the reader more insight into the research project. Granted, inclusion of the curriculum into the dissertation would take many pages to report; however, it should be included in the final report because the entire study is based on this course content.

Designing and evaluating a curriculum study is no easy task; it involves ambiguous and confounding factors which defy many of the evaluative techniques music educators have traditionally applied to research. Curriculum research is perhaps one of the most important areas of investigation in the field of music education even though it does not offer the "nice clean" package most researchers would like to present. Music education should now be aware of the many shortcomings to be found in the programs presented to contemporary public school students; however, there seems to be a lack of interest on the part of many researchers to dig into this problematic area. Perhaps this phenomenon is caused by the ambiguous qualities of curriculum studies; perhaps by a lack of interest on the part of researchers. Whatever the cause may be, this reviewer feels that more research in our field should investigate the public school music curriculum and attempt to do something to improve its shortcomings.

Despite the weaknesses of this study, it is basically a solid piece of research. If it offers nothing else to the reader, it is an excellent example of honest reporting of an experiment. The dissertation is written clearly and dispassionately. This reviewer suggests that all graduate students in the process of preparing a dissertation read this report and profit from it.

REFERENCES

[1] George Kyme, "A Study of the Development of Musicality in the Junior High School and the Contribution of Musical Composition to this Development," Cooperative Research Project No. OE-6-10-164, July, 1967.

[2] Robert B. Glidden, "The Development of Content and Material for a Music Literature Course in the Senior High School." Ph.D. dissertation, University of Iowa, 1966.

[3] James B. Fitzpatrick, "The Development and Evaluation of a Curriculum in Music Listening Skills on the Seventh Grade Level." Ph.D. dissertation, University of Iowa, 1968.

[4] Arthur Motycka, "A Report on the Results of an Experimental Course of Study in General Music." Ed.D. dissertation, University of Illinois, 1965.

[5] Jesse Gillette Evans, "The Effect of Especially Designed Music Listening Experiences on Junior High School Students' Attitudes Towards Music." Ph.D. dissertation, Indiana University, 1965.

[6] Paul A. Haack, "A Study of Two Approaches to the Development of Music Listening Skills within the Context of the Music Appreciation Class for Secondary School Students." Ph.D. dissertation, University of Wisconsin, 1966.

[7] James R. Hanshumaker, "Foundations for the Development of a High School Course in Music Literature Based on the Principle of General Education, with Implications for Teacher Education." Ph.D. dissertation, Ohio State University, 1961.

[8] Martha Pearman, "A Theoretical Framework with Adaptable Instructional Material for General Music Classes at the Secondary Level." Ed.D. dissertation, University of Illinois, 1964.

[9] Homer W. Ramsey, "The Role of General Music in the Curriculum of the Secondary School." Ph.D. dissertation, Ohio State University, 1957.

[10] James H. Robertson, "Principles for General Music in Secondary Schools." Ed.D. dissertation, University of Illinois, 1958.

[11] Rudolph B. Saltzer, "Musical Content: The Bases of High School Music Teaching (Parts I and II)." Ph.D. dissertation, University of Southern California, 1964.